

**Division of Humanities  
Department of Media and Information**

**Virtual Learning for Health Care Managers**

**Mary E Robertson**

**This thesis is presented for the Degree of  
Doctor of Philosophy of  
Curtin University of Technology**

**October 2006**

## **Declaration**

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university. To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgement has been made.

Signature: .....

Date: .....

## Acknowledgements

I would like to acknowledge and thank the following people:

Dr. Matthew Allen, Associate Professor in Internet Studies, School of Media and Information, Curtin University, who as my principle supervisor has provided me with support, guidance and encouragement throughout this study, and gave me the opportunity to pursue my PhD studies over the Internet in addressing a complex health industry topic;

Dr. W.A.S. Smith (retired), founding president of the University of Lethbridge, Alberta and president of Athabasca University, Alberta and known internationally as a distance educator, who as my local supervisor in British Columbia, Canada, was always willing to listen, guide and most importantly, to provide encouragement during this learning journey;

The Chief Executive Officers and health-care managers in the six health authorities in British Columbia who from the very beginning supported my study, and opened their organizations to facilitate my research efforts;

The over five hundred health-care managers in British Columbia who found time in their very busy schedules to respond to the survey, participate in interviews and provide feedback through stakeholder discussions;

The Canadian Council of Health Service Executives (CCHSE) and Royal Roads University in inviting me to present my survey findings to a health industry stakeholder audience.

The Association of Internet Researchers (AOIR) who provided me with the opportunity of presenting my research findings to an academic audience;

Jennifer Lalor, SPSS Consultant, Curtin University of Technology for her advice and assistance in the preparation of the quantitative tables.

My friends and colleagues at Global Tigers Systems Solutions who helped me review and test early survey instruments, set up a web site, review and comment on the interim health industry report of my survey findings, and encouraged me in my studies. A very special thank you to David Surette for his mentorship with the quantitative tables and Ken Sekhon for his assistance with the web site;

My son, Gregory, who provided his technical expertise and support in helping me to manage the Internet learning process;

Lastly, and most importantly, to my dear husband, Bill, who encouraged me to pursue this learning challenge, sharing his health industry knowledge and many other skills, and finding time to read and comment on my many drafts. I dedicate this work to Bill who has always nurtured my quest for learning.

My sincere gratitude to all,

Mary E (Sally) Robertson

## Abstract

The health industry in Canada, as well as in other industrial countries, has been in the process of reform for many years. While such reform has been attributed to fiscal necessity due to increased health costs, the underlying causes are far more complex. Demographic changes, new technologies, expanded health care procedures and medications, increased demand and the globalization of health services have all contributed to the change and complexity of the industry. Health reform varies from country to country. In Canada, with a publicly funded health industry, the main reform method has been regionalization. This decentralized reform method arranges health services under a regional corporate management structure. The primary objective of this study was to assess the effects of health reform on the educational development of health-care managers in British Columbia, a western province of Canada.

The study had a two-fold approach; to ascertain how health reform had changed the skill needs of health-care managers, and whether e-learning could benefit health management education. The key research questions that guided the study were: How might recent changes in the health industry have affected the learning needs and priorities of health-care managers? What factors might hinder attempts to meet any learning needs and priorities of health-care managers? and What benefits might e-learning provide in overcoming hindrances to effective health management education?

A combination of quantitative (survey closed questions) and qualitative (survey open-ended questions, interviews and stakeholder feedback) methods was employed in this study. Overall, this study is described as productive social theory research, in that it addressed a recognized change in learning needs for health-care managers following a period of health reform, a socially significant phenomenon in the health industry. Relying on such tools as a survey, interviews, and stakeholder discussions, data was collected from over five hundred health-care managers. The data collected in this study provided valuable insight into the paradigm shift occurring in the educational needs of these managers.

The study found that health reform had expanded the management responsibilities of health-care managers and increased the complexity of service delivery. Restructuring of the health industry decreased the number of managers, support systems, and career opportunities for managers and increased the manager's workload, communication problems and the need for new knowledge and skills. In addressing the learning needs of health-care managers, the study found there were limitations in health management educational opportunities available to health-care managers. The findings also show that current health management education was focused on

senior managers leaving the majority of industry leaders with limited learning opportunities to upgrade their knowledge and skills at a time of great organizational change. In addition, a classroom format dominated the learning delivery options for many managers.

A list of fourteen management skills was used in the survey instrument to ascertain what new skills were needed by health-care managers following thirteen years of health reform. The findings show that of the fourteen skills, twenty-nine percent of health-care managers had no training and fifty-seven percent received their training through in-service, workshops and seminars. Irrespective of gender, age, working location and education the data showed that health-care managers were mainly receiving training in change and complexity and people skills with less training occurring in planning and finances. Using the same fourteen skills, health-care managers prioritized their immediate learning needs, listing the top three, as: evidence-based management, change and complexity and financial analysis. While evidence-based management and financial analysis could be attributed to the introduction of a corporate management structure in the health industry, change and complexity was an anomaly as managers were already receiving training in this skill. Health industry stakeholders believed this anomaly was due to continued uncertainties with ongoing health reform and/or a need for increased social interaction during a time of organizational change. In addressing the many learning needs of health-care managers a new health management education strategy was proposed for the province which included the need for an e-learning strategy.

The e-learning approach being proposed in this study is an integration of skill training and knowledge sharing directly blended into the workflow of the managers, using a variety of learning technologies. To support this idea, the study found that the majority of health-care managers were not only familiar with e-learning, they also felt they had the computer and Internet skills for more learning delivered in this manner. While a strong need for face-to-face learning still remained, a blended e-learning strategy was proposed for skill training, one that would accommodate the learning needs of managers in rural and remote areas of the province. Knowledge sharing technologies were also proposed to improve the flow of information and learning in small units to both newcomers and experts in the industry. Since this would be a new strategy for the province, attention to quality and costs were identified as essential in the planning.

The study found that after years of health reform a new health management educational strategy was needed for the health industry of British Columbia, one that would incorporate a number of learning technologies. Such a change in educational direction is needed if the health industry wishes to provide their leaders with a responsive learning environment to adapt to ongoing organizational change.

# Table of Contents

---

<b>DECLARATION</b>	<b>ii</b>
<b>ACKNOWLEDGEMENTS</b>	<b>iii</b>
<b>ABSTRACT</b>	<b>v</b>
<b>TABLE OF CONTENTS</b>	<b>vii</b>
<b>LIST OF TABLES</b>	<b>xiv</b>
<b>LIST OF FIGURES</b>	<b>xviii</b>
<b>ABBREVIATIONS USED IN THE STUDY</b>	<b>xix</b>
<b>CHAPTER 1: INTRODUCTION</b>	<b>1</b>
1.1 Introduction	1
1.2 Frequently used terms	2
1.3 Background to the study	4
1.4 Overall purpose of the study	5
1.5 Specific research questions	6
1.6 Significance of the study	6
1.7 Overview of the thesis	6
1.8 References	8
1.9 Background of the researcher	8
1.10 Conclusion	9
<b>CHAPTER 2: HEALTH INDUSTRY IN TRANSITION</b>	<b>10</b>
2.1 Introduction	10
2.2 The Canadian public health industry	12
2.2.1 Background to Canada's publicly-funded health system	12

2.2.2	The federal/provincial funding agreements	13
2.2.3	Source(s) of health revenue	15
2.2.4	Health industry costs	17
2.2.5	Methods of health reform	20
2.2.6	Reaction to health reform in Canada	24
2.2.7	Globalization of health services	27
2.3	International health reform	28
2.3.1	Australia, United States, Britain and Europe	29
2.3.2	Reaction to health reform in other countries	31
2.4	British Columbia's health reform	34
2.4.1	Geographic challenges of British Columbia	34
2.4.2	Provincial health care costs	35
2.4.3	Privatization as a health reform method	36
2.4.4	Regionalization as a health reform method	37
2.4.5	Reaction to health reform in British Columbia	41
2.5	Conclusion	44
<b>CHAPTER 3: ORGANIZATIONAL CHANGE</b>		<b>46</b>
3.1	Introduction	46
3.2	How change affects organizations	48
3.2.1	Change management in organizations	49
3.2.2	The new organizational model	54
3.2.3	Changing a complex organization	55
3.3	How change affects managers	58
3.3.1	Definitions/description of the health-care manager's role	58
3.3.2	The evolution of the health-care manager's role	61
3.3.3	Pre- and post-reform changes in British Columbia	62



3.3.4	Health management resource crisis	68
3.3.5	Comparison with other industries	70
3.3.6	New expectations for all managers	73
3.4	Conclusion	78
<b>CHAPTER 4: HEALTH MANAGEMENT EDUCATION</b>		<b>80</b>
4.1	Introduction	80
4.2	The importance of health management education	84
4.3	Learning challenges of health-care managers	87
4.3.1	Stress and organizational support in learning	87
4.3.2	Problems with MBA or equivalent education	89
4.3.3	The need to focus on competencies	93
4.3.4	The need for more academic credit	95
4.4	The growth of e-learning	98
4.4.1	Acceptance and promotion of e-learning	98
4.4.2	Accessing technology	100
4.5	Health management education in British Columbia	103
4.5.1	Health Authority health management education	104
4.5.2	Higher Education health management education	112
4.5.3	Other management/health management programs	116
4.6	Conclusion	118
<b>CHAPTER 5: METHODOLOGY</b>		<b>120</b>
5.1	Introduction	120
5.2	Case study	124
5.3	Quantitative/qualitative survey data (Datasets #1 and #2)	126
5.3.1	Survey ideas and concepts	128

5.3.2	Survey format and structure	129
5.3.3	Survey sample, distribution and response	130
5.4	Qualitative interview data (Dataset #3)	139
5.4.1	Interview format and structure	141
5.4.2	Interview sample and response	141
5.5	Health industry stakeholder feedback (Dataset #4)	142
5.6	Analysis of the total data set	143
5.7	Validity and reliability	145
5.8	Conclusion	149
<b>CHAPTER 6: FINDINGS</b>		<b>151</b>
6.1	Introduction	151
6.2	Quantitative data from survey	152
6.2.1	Survey representativeness	152
6.2.2	Survey demographics	153
6.2.3	Management education	183
6.2.4	Education delivery	198
6.3	Qualitative data from the survey	229
6.4	Qualitative data from interviews	234
6.5	Qualitative data from stakeholders	237
6.6	Triangulation of datasets	239
6.7	Conclusion	141
<b>CHAPTER 7: ANALYSIS-MANAGEMENT EDUCATION NEEDS</b>		<b>244</b>
7.1	Introduction	244
7.2	Health reform	245
7.2.1	Increased complexity with health reform	245

7.2.2	Ongoing health reform	248
7.2.3	Basic education for health-care managers	251
7.2.4	The clinical/non-clinical issue	255
7.2.5	A changing learning environment	257
7.3	Need for new management skills	261
7.3.1	Competency learning for health-care managers	261
7.3.2	Short-term learning priorities	264
7.3.3	Are managers trained for change?	266
7.4	Learning challenges	269
7.4.1	Lack of time for learning	269
7.4.2	Need for more organizational support	272
7.4.3	Need for different funding options	274
7.4.4	More academic credit for experience and other learning	276
7.5	Conclusion	278

**CHAPTER 8: ANALYSIS-E-LEARNING 280**

8.1	Introduction	280
8.2	Health industry's familiarity with e-learning	282
8.2.1	E-learning in the health industry	282
8.2.2	Health-care managers already familiar with e-learning	286
8.2.3	Advantages and limitations of e-learning	288
8.3	The benefits of e-learning for health-care managers	296
8.3.1	Knowledge sharing through e-learning	296
8.3.2	Skill training through e-learning	301
8.3.3	Preference for a blended learning method	306
8.4	Learner and organizational challenges with e-learning	309

8.4.1	Technological and pedagogical issues	309
8.4.2	Building an e-learning inventory	313
8.4.3	Quality and costs	314
8.5	A new health management educational strategy	320
8.6	Conclusion	323
<b>CHAPTER 9:</b>	<b>CONCLUSIONS</b>	<b>326</b>
9.1	Introduction	326
9.2	Addressing the research questions	326
9.2.1	Research question 1	327
9.2.2	Research question 2	329
9.2.3	Research question 3	331
9.3	Limitations of the research	334
9.4	Implications for further research	335
9.5	Final statement	336
<b>References</b>		<b>337</b>
<b>Appendix A</b>	<b>Definitions and Descriptions</b>	<b>383</b>
<b>Appendix B</b>	<b>A comparison of management competency lists</b>	<b>387</b>
<b>Appendix C</b>	<b>British Columbia: Higher Education Management Programs</b>	<b>389</b>
<b>Appendix D</b>	<b>Executive Summary: Management Education Needs and Delivery Options For Health-care managers (Health Authority Report)</b>	<b>393</b>
<b>Appendix E</b>	<b>Survey Instrument: B.C. Health Management Education Survey</b>	<b>395</b>
<b>Appendix F</b>	<b>Senior Management Interview List</b>	<b>402</b>
<b>Appendix G</b>	<b>Senior Management Interview Questions</b>	<b>404</b>

<b>Appendix H</b>	<b>Health-care Manager Learning Needs</b>	<b>405</b>
<b>Appendix I</b>	<b>Additional Quantitative Tables</b>	<b>409</b>
<b>Appendix J</b>	<b>Qualitative Survey Data</b>	<b>427</b>
<b>Appendix K</b>	<b>Qualitative Interview Data</b>	<b>447</b>

## List of Tables

---

<b>Table</b>	<b>Title</b>	<b>Page</b>
4.1	Comparison of Research Competencies and Vancouver Island Health Authority Current Management Programs	106
5.1	Survey Participant Sample and Response by Health Authority	131
5.2	Management Level of Survey Respondents	135
5.3	Management Level of Respondents by Gender	135
5.4	Urban/Non-urban Location of Respondents	136
6.1	Survey Response Rate by Health Authority (repeat)	152
6.2	Survey Response Rate by Research Population	152
6.3	Urban/Non-urban Working Location of Survey Respondents	154
6.4	Age of Survey Respondents (5 divisions)	154
6.5	Age of Survey Respondents (3 divisions)	155
6.6	Gender of Survey Respondents	155
6.7	Undergraduate (UG) Education of Survey Respondents	156
6.8	Postgraduate (PG) Education of Survey respondents	157
6.9	Respondents with Undergraduate/Postgraduate Education	157
6.10	Undergraduate/Postgraduate, Clinical/Business Education	158
6.11	Undergraduate/Postgraduate, Clinical/Business by gender	159
6.12	Undergraduate/Postgraduate, Clinical/Business by Age	162
6.13	Undergraduate/Postgraduate, Clinical/Business by Urban/Non-urban Location	165
6.14	Respondents with Either/Both Undergraduate/Postgraduate Education	167
6.15	Management Level of Survey Respondents	170
6.16	Management Level by Gender	171

6.17	Management Level by Undergraduate (UG) Education	172
6.18	Management Level by Postgraduate (PG) Education	173
6.19	Undergraduate/Postgraduate, Clinical/Business Education by Management Level	175
6.20	Nursing Education by Management Level	178
6.21	Nursing Education by Gender	179
6.22	Nursing Managers by Age	180
6.23	Nursing Managers by Urban/Non-urban Location	181
6.24	Nursing Managers by Postgraduate Education	182
6.25	Nursing Managers and Management Training	183
6.26	Latest Management Education	184
6.27	Latest Management Education and Undergraduate/Postgraduate Education	185
6.28	Competency Education by Delivery Method- No Formal Education	187
6.29	Competency Education by Delivery Method –Formal Education	188
6.30	Competency Comparison by Averaging	189
6.31	Competency Self-rating and Undergraduate/Postgraduate Education	191
6.32	Prior Competency Training and Learning Need Identification	192
6.33	Competency Mean Rating and Learning Mean Rating	193
6.34	Mean Rating and Prior Competency Training	194
6.35	Competency Self-rating by Gender	195
6.36	Competency Self-rating by Age	196
6.37	Competency Self-rating by Undergraduate/Postgraduate Education	196
6.38	Educational Change Due to Health Reform	198
6.39	Educational Change Due to Health Reform by Gender	199
6.40	Educational Change Due to Health reform by Age	200
6.41	Educational Change Due to Health Reform by Urban/Non-urban Location	201

6.42	Educational Change Due to Health Reform by Undergraduate/Postgraduate Education	201
6.43	Academic Credit for professional Experience	206
6.44	Academic Credit for Other Learning	206
6.45	Academic Credit for Experience and Other Learning by Gender	206
6.46	Academic Credit for Experience and Other Learning by Age	207
6.47	Academic Credit for Experience and Other Learning by Undergraduate/Postgraduate Education	207
6.48	Respondents' Distance Learning Experience	210
6.49	Respondents' Interest in Further Distance Learning	210
6.50	Distance Learning Experience/Interest by Gender	210
6.51	Distance Learning Experience/Interest by Age	211
6.52	Distance Learning Experience/Interest by urban/Non-urban Location	211
6.53	Distance Learning Experience/Interest by Undergraduate/Postgraduate Education	211
6.54	Respondents' Experience with E-learning	212
6.55	E-learning Experience by Gender	212
6.56	E-learning Experience by Age	213
6.57	E-learning Experience by Urban/Non-urban Location	214
6.58	Have the Computer/Internet Skills for E-learning	215
6.59	Computer/Internet Skills by Undergraduate/Postgraduate Education	215
6.60	Computer/Internet Skills by Clinical/Business Undergraduate Education	216
6.61	Computer/Internet Skills by Clinical/Business Postgraduate Education	217
6.62	Reasons E-learning not Chosen	218
6.63	E-learning Not Chosen by Gender	219
6.64	E-learning Not Chosen by Age	219
6.65	E-learning Not Chosen by Urban/Non-urban Location	220
6.66	E-learning Not Chosen by Undergraduate/Postgraduate Education	221
6.67	E-learning Not Chosen by Clinical/Business Undergraduate Education	222



6.68	E-learning Not Chosen by Clinical/Business Postgraduate Education	222
6.69	Rating of Classroom Learning	224
6.70	Rating of Paper-based Distance Learning	224
6.71	Rating of E-learning	225
6.72	Comparison of Three Delivery Methods	225
6.73	Mean by Variable and Delivery Method	227
6.74	E-learning Experience and Delivery Method Rating	228
6.75	Qualitative Survey Data/Theme 1: Management Education	230
6.76	Qualitative Survey Data/Theme 2: Barriers to Learning	230
6.77	Qualitative Survey Data/Theme 3: Health reform	230
6.78	Qualitative Survey Data/Theme 4: E-learning and Knowledge Sharing	231
6.79	Top Three Competency Learning Needs by Gender	232
6.80	Top Three Competency Learning Needs by Age	232
6.81	The Main Advantages of E-learning	234
6.82	Qualitative Interview Data/Theme 1: Essential Management Skills	234
6.83	Qualitative Interview Data/Theme 2: Health reform	235
6.84	Qualitative Interview Data/Theme 3:Management Education	235
6.85	Qualitative Interview Data/Theme 4: E-Learning	236
6.86	Qualitative Interview Data/Theme 5: Knowledge Sharing	236
8.1	E-learning Flexibility	290
8.2	Summary of Education Delivery Preference by Variable	304
8.3	Blended Learning Approaches	308

## List of Figures

---

<b>Figure Title</b>	<b>Page</b>
2.1 Map of British Columbia and Health Regions	40
3.1 Health Authority Management Levels	63
5.1 Four Dataset Sources	125
5.2 Ratio of Respondents to Surveys Distributed by Health Authority	131
5.3 Web-based Survey Implementation Process	134
5.4 Analysis of Four Datasets	144
6.1 Ratio of Respondents to Surveys Distributed by Health Authority	153
6.2 Age Group of Respondents	155
6.3 Gender of Respondents	156
6.4 Management Level of Respondents Analysis	170
6.5 Average Competency Scores of Learning Format	190
6.6 Competency Rating by Gender	195
6.7 Competency Rating by Age	196
6.8 Competency Rating by Undergraduate/Postgraduate Education	197
6.9 Skills Outdated Due to Health Reform	202
6.10 Difficult Working Environment Due to Health Reform	203
6.11 Increased Learning Responsibilities Due to Health Reform	204
6.12 No Change Due to Health Reform	205
6.13 Academic Credit for Experience	208
6.14 Academic Credit for Other Learning	209

## Abbreviations Used in the Study

---

ACHSE	Australian College of Health Service Executives
ASP	Application Service Provider
ASTD	American Society of Training and Development
BCIT	British Columbia Institute of Technology
CALL	Center for Army Lessons Learner
CCHSE	Canadian College of Health Service Executives
CHE	Certified Health Executive
CHST	Canada Health and Social Transfer
CILT	Center for Innovative Learning Technologies
CIHI	Canadian Institute for Health Information
CPD	Continuing Professional Development
CU	Corporate University
DBA	Doctor of Business Administration
EPF	Established Program Financing
FHA	Fraser Valley Health Authority
GATS	General Agreement on Trade in Services
GDP	Gross Domestic Product
GuSS	Guided Social Simulation
HA	Health Authority
HE	Higher Education
HRSDC	Department of Human Resources and Skill Development Canada
IC	Intellectual Capital
IHA	Interior Health Authority
ILS	Institute of Learning

*Abbreviations (continued)*

IMPM	International Masters in Practicing Management
IMMEX	Multi Media Exercises
KM	Knowledge Management
NAFTA	North American Free Trade Agreement
NHA	Northern Health Authority
NHS	National Health Service (UK)
NHSU	National Health Service University
NOC	National Occupational Classification system (Canada)
NRR	Near Retirement Rate
NYIT	New York Institute of Technology
NZIHM	New Zealand Institute of Health Management
MBA	Master of Business Administration
OECD	Organization of Economic Cooperation and Development
PHSA	Provincial Health Services Authority
SPIEL	Story Producer for Interactive Learning
SPUD	Skills Planning and Development
TRIPS	Agreement Respecting Trade-related Aspects of Intellectual property Rights
TMSs	Training Management Systems
UCH	University of Chicago Hospital
VIHA	Vancouver Island Health Authority
VCHA	Vancouver Coastal Health Authority
VLEs	Virtual Learning Environments
WTO	World Trade Organization

# Chapter 1

## Introduction

---

*Education is the most powerful weapon which you can use to change the world. – Nelson Mandela*

### 1.1 Introduction

The focus of this study is two-fold – to understand the current learning needs of health-care managers in the health industry of British Columbia, Canada, and to demonstrate how e-learning may enhance choice and access to learning. For over a decade, the health industry in British Columbia has been experimenting with different reform methods which have greatly changed the landscape of the industry affecting all health professionals, particularly its leaders. The need to study the education of health industry managers comes at a time when the industry is facing leadership recruitment and retention problems due to health reform, a pending retirement of the baby-boomer generation who are in leadership positions, and increased competition with other industries for management talent. The speed of health reform has challenged the capabilities of traditional learning methods and raised the question whether a new educational approach is needed. These factors provide the context in which the following study was undertaken.

Data collected for this study was obtained from over five hundred health-care managers in the health industry of British Columbia, Canada. A combination of quantitative and qualitative methods were employed to collect the data. A web-based survey was administered to health-care managers in six health authorities in the province. In order to collect baseline data and identify group profiles. Overall, this study can be described as productive social theory in addressing a recognized change in learning needs of health-care managers following a period of health reform, a socially significant phenomenon in the province's health industry. The data collected in this study reflects just one point in time since health reform is ongoing which inevitably keeps changing the learning needs of its leaders.

This chapter is structured to provide information on frequently used terms and background information, followed by the purpose of the study and specific research questions. The final section presents an overview of the organization of the thesis chapters.

## 1.2 Frequently used terms

This study focuses on three areas; e-learning, management education and the health industry. To understand the context of a number of frequently used terms in this study a brief description follows. Additional terms may be found in Appendix A.

**E-learning:** The American Society for Training and Development (ASTD), in their statement on e-learning, describes it as “instructional content or learning experiences delivered or enabled by electronic technology” It goes on to say:

Functionally, e-learning can include a wide variety of learning strategies and technologies, from CD-ROMs and computer-based instruction to videoconferencing, satellite-delivered learning and virtual educational networks(2001:7)

According to Stuart, e-learning can also involve digital video disks (DVDs), e-mail, and live chat and the learning may happen synchronously (i.e. real time) or asynchronously (i.e students do coursework at their convenience)(Stuart 2004:1). A further clarification of the use of the Internet is provided by Markanen:

From a user’s perspective, the World Wide Web has become synonymous with the Internet, although the Web, or WWW, is actually an Internet service that organizes information using hypermedia. It offers a uniform, easily used interface to the vast resources stored on the computers of the Internet. It allows the users of these computers to communicate with each other in ways that are inexpensive, easy to use, and very fast (Markanen 1999:10).

In this study e-learning will be used as a generic term to encompass internet-based, computer-based, technically-mediated learning or learning provided in an Internet-based environment. In addition, e-learning will be extended beyond technology to a service where learning becomes an integral component of the work process.

**Funding:** Throughout the study any reference to funding will be presented in Canadian currency. In a few instances where United States funding is addressed, Canadian rates will given with the United States rate presented in brackets. As a quick comparison, in recent years, the Canadian dollar has been between seventy-five to eighty-five cents on the United States dollar.

**Health-care manager:** There are various definitions of managers in health care which may describe their activities as planning, organizing, directing, controlling and evaluating the delivery of health care services, or as being facilitators of interdisciplinary teams fostering the emergence

of projects aimed at improving practices, based on client needs (cited in Romilly 2005:10). In this study the term ‘health-care manager’ is a generic term referring to all managers from the executive to the front lines of the health industry. Any reference to ‘senior health-care managers’ will refer to those managers at the executive/senior levels of the Health Authority who have responsibility for overall planning of service delivery. The use of ‘manager’ and/or ‘leader’ in the study is used interchangeably, the reason for such usage can be found in Appendix A.

**Health Authority:** The Canadian Centre for Analysis of Regionalization and Health defines this term as:

Regional health authorities are autonomous health care organizations with responsibility for health administration within a defined geographic region within a province or territory. They have appointed or elected boards of governance and are responsible for funding and delivering community and institutional health services within their regions(2003:1)

In this study the focus will be on the six health authorities (i.e. five regional and one provincial) in British Columbia.

**Health reform:** The term refers to reform of the entire health industry or of any part of the industry, including individual programs and/or change created by temporary budget reductions. The cause of such reform, according to Vawdrey, emerges from four major issues facing governments and private health providers worldwide: ensuring patient safety, raising quality of care, increasing patient satisfaction and achieving cost effectiveness in operations and service delivery. He continues:

Reform activities are putting the focus on the patient and expected health outcomes are being more clearly defined. This involves substantial business and culture change management, supported by information and communications technology initiatives. There is a shift from health IT [information technology] spending for its own sake to developing IT strategies that support reform initiatives (Vawdrey 2005:1)

In this study, health reform in Canada, internationally and particularly in British Columbia is examined to provide background information on the organizational changes which health-care managers are experiencing in their working environment.

**Regionalization:** The Canadian Centre for Analysis of Regionalization and Health describes regionalization as:

In the distribution of federal-provincial powers in Canada, the provinces are responsible for health care. In the 1990s most provinces in Canada partially devolved their responsibility to sub-provincial regions. The objective was to streamline the delivery system, making it less fragmented and more responsive to local needs. In some provinces additional goals were to increase community-based services, improve public participation in health care and to encourage policies and programs to promote health.

Regionalization has taken different forms across the country. Typically, however, there is a provincially-appointed (some are locally-elected) board responsible for the delivery of health care services and programs to the region. The implications of regionalization for improving health effectiveness and efficiency and its broader social implications for community participation and understanding of health have yet to be adequately assessed (2003:1).

In this study, the main focus will be on regionalization of health services in British Columbia, one province of Canada.

### **1.3 Background to the study**

The health industry in Canada, as in other industrial countries, has been in the process of reform since the late 1980s. Briscoe, Dickson et al. describe this health environment as follows:

For the past two decades Canada's health system has been characterized as in perpetual crisis. Provincial and federal governments have commissioned five major reviews in the last five years, each tasked to uncover health system failings and prescribe recuperative actions (Briscoe, Dickson et al. 2005:6)

Many fiscal and other challenges facing the health industry have resulted in health reform measures being introduced across Canada, varying from province to province. The primary method of reform for many provinces has been regionalization, a concept described above. The causes for such reform are many, but the primary stimulus for change is rapidly increasing health costs. Such increased costs have been attributed to technology, greater public demand for health services, increased accountability, the need for improved efficiencies, and shifts in demographics. Decreased government funding has also contributed to the overall complexity of the problem. The situation has also been exacerbated by the recent trend to globalized health services. The ramifications of such health reform action for health industry managers as the leaders of the industry, are the focus of this study.



The effects of industry change on managers was noted by Briscoe, Dickson et al. who believe health reform has shifted the focus from *health care* to *health*, resulting in a paradigm shift in primary leadership responsibility. Thus, health leaders are no longer expected simply to be advocates for their part of the health industry (i.e. the hospital or the community), but are also expected to be advocates for the system itself. This need to be an advocate for health means the health leader is expected to lead all health industry participants to a common goal of improving the health of all citizens (Briscoe, Dickson et al. 2005:4). These authors go on to say:

This change in the business environment together with structural changes to reflect the new vision (regionalization) has changed the very nature of leadership in health itself, and has raised the ante significantly for anyone who chooses to take on that mantle in the Canadian health arena (Briscoe, Dickson et al. 2005:4)

This paradigm shift in health leadership requires greater collaboration with other leaders in the industry who in the past may have been competitors. As the old model of ‘heroic’ leadership – the dominance of one great person or small group- gives way to this new leadership approach, methods in developing such leaders will also need to be reassessed. The fundamental question is what learning method(s) will best meet these new challenges? This study will show the limitations of traditional learning options in addressing the new learning challenges for health-care managers and will examine the potential that e-learning offers as a solution.

#### **1.4 Overall purpose of the study**

Health reform has introduced many changes for health professionals, particularly managers with new skill demands and increased pressure to reassess old methods and practices. Having spent the past decade responding to the organizational changes, health-care managers are just now realizing their need for increased learning if they are to survive in the new working environment. This study proposes to describe the current working environment of health-care managers, their new management challenges, their learning needs and current health management educational options. Realizing the need for a more responsive learning strategy, an important goal of this study is to examine how e-learning may be used to enhance and address the learning challenges of health industry leaders. The case study method was adopted to achieve this task. With such a method the assumption is made that the findings of this study will not only be of importance to British Columbia but also to other jurisdictions facing similar health leadership change.

## **1.5 Specific research questions**

The key research questions which guided this study are as follows:

1. How might recent changes in the health industry have affected the learning needs and priorities of health-care managers?
2. What factors might hinder attempts to meet any learning needs and priorities of health-care managers?
3. What benefits might e-learning provide in overcoming hindrances to effective health management education?

## **1.6 Significance of the study**

This study should be of particular interest to leadership education policy makers in the provincial government, health authorities and education providers. This study presents a practical approach to health management education, taking into consideration the necessity for a health industry focus, the need for a rapid response in identifying and locating learning opportunities for busy industry leaders and in considering different e-learning options. The approach being proposed may be significant to both organizations and managers in the health industry of British Columbia, with similar ramifications in other jurisdictions. While there are many discussions underway in Canada as to how to address the leadership crisis within the health industry, there has not been a great emphasis on e-learning. The reason why this study stresses the need for greater e-learning is that health-care managers need a faster response to both their information and learning needs which may only be possible through technology.

## **1.7 Overview of the thesis**

Chapter two of this thesis describes the transition of the health industry since the 1940s in Canada and since the late 1980s in other jurisdictions. Information is provided on the creation of the Canadian publicly funded health industry, the reasons for reform, reform methods, and the Canadian reaction to such change. Health reform is then reviewed in a number of other countries noting similar reactions to such change. The chapter then focuses on the health industry of British Columbia, the location of this study, noting the service delivery challenges and costs, reform methods and, the reactions to reform. This chapter introduces the complexity of health reform, the global similarities of such change, and reactions to changing a vital social program.

Chapter three describes how change affects organizations and managers. The material looks at whether the health industry is well structured for change, features of the new organizational model, and the problems of changing complex organizations. The chapter examines how change affects managers by reviewing the evolving role of the health-care manager, pre- and post-reform changes and the new expectations for managers. This chapter will show how organizational change in the health industry has restructured the working environment of health-care managers creating new knowledge and skill demands.

Chapter four focuses on the link between organizational change and learning by addressing the learning challenges of health-care managers and the importance of management education for health-care managers. A description is provided of the health management education opportunities currently available through the Health Authorities and higher education. This chapter will show that before health-care managers can address their new knowledge and skill demands they will need to address a number of learning challenges complicated by the lack of a provincial health management educational strategy and reduced learning options.

Chapter five presents the research methodology adopted for this study in the form of a case study method using four datasets: quantitative and qualitative data from the survey, interviews and stakeholder feedback. The web-based survey ideas, concepts, format, structure, sample, distribution and response is presented, followed by a presentation of the format, structure and sample of the interviews. Health industry stakeholder format and discussions are then noted. The analysis and data triangulation is presented, along with the validation and reliability methods of the study. This chapter will show how the data was collected and the means used to assure data quality.

Chapter six presents the findings of the study. Quantitative data from the closed survey questions is presented, in tabular and graphical form, on demographics, the skill learning needs of health-care managers, and the views of health-care managers on e-learning. Key themes in qualitative data provided in the open-ended survey questions and interviews is provided in also presented in tabular form. Stakeholder feedback is presented in a descriptive format. The chapter presents the findings of the study which forms the basis of the analytical chapters seven and eight which follow.

Chapter seven analyzes health management education data by combining the quantitative and qualitative data from the survey, interviews and stakeholder discussions. The analysis is presented in three main sections which are on health reform, the need for new management skills, and learning barriers. This chapter will show that health-care managers are aware health reform has changed both their working and learning environments, that new skills are needed and barriers to

learning need to be addressed to enable them to manage a complex and changing organization. Twelve study conclusions are presented in this chapter.

Chapter eight analyzes e-learning data by combining the quantitative and qualitative data from the survey, interviews and stakeholder discussions. The analysis is presented in four main sections which are on health-care managers' views on e-learning, the benefits of e-learning for health-care managers, learner and organizational challenges with e-learning and a new health management educational strategy. Six study conclusions are presented in this chapter. The chapter also examines the use of learning technologies to integrate knowledge sharing and e-learning directly into the workplace.

Chapter nine, the final chapter, is a summary of the study. The material examines what was learned relative to the three research questions. The limitations of the study and implications for further research are then presented followed by a final statement on the study.

## **1.8 References**

Twelve hundred references were reviewed and seven hundred and eighty-two were used in the writing of this thesis. International, national and provincial reports and documents were examined in addition to a variety of alternative references on the main tenets of this thesis in organizational change, health reform, management education and e-learning. The material in many of these references formed the background for chapters one to four. This material was also augmented by the professional experience of the researcher (Refer to 1.9 below).

In the area of health reform in British Columbia official studies were limited. Although there have been three reform methods introduced in the past thirteen years to restructure the entire health industry in the province, there has been only one official study of these, namely that by Val Roddick. Thus, Roddick's study has been used extensively in chapter 2 in describing the effects of regionalization in British Columbia.

## **1.9 Background of the researcher**

The researcher comes to this study with over forty years of health industry experience, primarily in Canada. This experience includes a variety of professional positions in nursing, administration, health professional education and private consulting, in government, non-profit organizations, professional associations and private industry, many at a senior level. As an administrative consultant with the Ministry of Health in British Columbia in the 1990s, the researcher had first-hand experience working with the regions in the first and second reform processes. In the area of health management education, the researcher was the Executive Director of a national/

international distance management education program for nursing leaders in Canada and other countries, and later as a university faculty member on an off-site campus provided management education to post-registered nursing students. It is from this background that the researcher has observed the effects of health reform on industry leaders and recognized a need to explore new learning options.

### **1.10 Conclusion**

The health industry in Canada, and many other countries, has been in a process of reform since the late 1980s. This change process has not only affected all health personnel but all of society. The change process varies in different jurisdictions depending on the methodology used and the speed of reform. The focus of this study is on how such change has affected health-care managers and what this means to their professional development. It is the assertion of this study that traditional educational options cannot adapt quickly enough to address the speed of change and the learning demands of today's health-care managers. A new learning strategy is needed. It is proposed that e-learning maybe one means to address this learning challenge. The material presented in the rest of this thesis is intended to defend this premise.

## Chapter 2

### Health Industry in Transition

---

*I cannot say whether things will get better if we change; what I can say is they must change if they are to get better.*  
- Georg Christoph Lichtenberg

#### 2.1 Introduction

This chapter provides an overview of health reform and what it means to the health industry of Canada, other countries and British Columbia, a western Canadian province. The material will show some of the reasons why a major, publicly funded social program has been pressured into organizational restructuring. It will also show that this societal and organizational shift occurring in Canada is not isolated to one country but has been an international trend for the past two decades. The importance of this information is to understand how health reform has affected the working and learning environments of health-care managers.

The health industry in Canada, as in other parts of the industrial world, is undergoing a dramatic process of reform in which many of the causes of change are, largely, beyond the control of the system itself. This process has resulted in organizational change that appears to address these causes of change but which, for the most part, has become change for its own sake. Although understandable, or at least explicable, on the basis of policy ideals or organizational and management structure, some changes are not beneficial to the health industry. This policy shift to reorganize the health industry also reflects a potential or real change in societal values as noted by Somerville as follows:

While having access to good health care when we are ill is immensely important to each of us, health care is never simply about health care, and certainly not in Canada. Our health care system defines us as communities, as a society, and as a nation. . . . . Health care is a major force in determining what can be referred to as the ethical and legal tone of a society (Somerville 1999:xi)

Kenny also links health care policy, values and the 'common-good' by stating that:

While we can acknowledge that policy is often a short-term political response, we must ensure that it reflects key societal values because policy is focused on the common good. It is impossible to determine what that “common-good” is when there is no public forum in which to identify commonly-held values and no clear and respectful process for prioritizing values in real decisions (cited by Somerville 1999:109)

These societal values and principles will be referred to in this chapter in recognition of their importance to the overall health reform process. However, the main focus of the material in this chapter will be on the official reasons presented for health reform and the reform methods adopted by Canada, and particularly British Columbia.

This chapter describes the evolution of the health industry in Canada from a mainly private to a publicly funded industry. As the industry evolved over the decades it adapted to increased demographics, new technologies, procedures and products, increased numbers of health professionals and increased costs. It is the fiscal crisis (i.e. less funding to provide more health services) that is presented as the primary reason for health reform in Canada. This chapter will show that this fiscal crisis is a complex problem. It is affected by federal/provincial funding arrangements, increased service demands and the emerging realities of a global economy. To manage this crisis, public policy makers in Canada have introduced two main reform methods; increased privatization and regionalization, with regionalization being its primary focus. As described in chapter one, regionalization is a decentralization of health services to health authorities, with each authority governed by a corporate board, responsible for all health services within a geographic region. In their efforts to achieve the most effective regionalization structure, British Columbia introduced three different regionalization models in thirteen years. These reform processes created major health service shifts, numerous human resource changes and lingering questions with regard to service quality and cost savings. Reactions to such change came slowly as communities and health stakeholders attempted to respond to the different reform processes. While Canada’s reform method may differ from other countries, the underlying fiscal pressures and reactions to such change have many similarities.

The number of regionalization models introduced in British Columbia and the depth of societal and organizational change created by health reform took time to evolve. Because of this, health-care managers are just beginning to understand the ramifications of health reform on their career development. The key elements of this thesis will be to see how health-care managers assess their new learning environment, what new skills they see as important in their restructured workplace, and their views on using learning technologies. Since the changes being experienced by health-

care managers in British Columbia are not necessarily different from other industrial countries, the information in this study may be beneficial to other jurisdictions.

The information in the next three chapters is structured to describe the learning problem which has emerged for health-care managers following years of health reform. This chapter presents an overall description of health reform in three sections. The first section presents background information on the health industry in Canada, its evolution, and the reasons for and reactions to health reform. The second section looks at health reform in other countries and how these countries have responded to such change. The third section focuses on the health industry of British Columbia, its service delivery challenges, reform methods and reaction to such change.

## **2.2 The Canadian public health industry**

To understand the Canadian health industry the following section will present information on the historic roots of Canada's publicly funded health industry and how it is funded. Information will be provided on the escalating costs of providing health services, a factor often stated as the main reason for health reform. The methods of health reform used in Canada will be examined as well as the reaction to such reform. Finally, globalization will be addressed as to its implications for an industry already undergoing considerable change.

### **2.2.1 Background to Canada's publicly-funded health system**

The Canadian publicly funded health care system arose in the aftermath of the Depression and World War II to protect individuals and families from financial disaster in the face of catastrophic illness. Initial discussions about transferring hospital and medical services from the private to the public sector began in 1945 but it took many years before the concept was adopted by the federal government. The first step was taken by the provinces (Robertson 1980:3). In 1947, Saskatchewan, another of Canada's western provinces, introduced the first compulsory hospital insurance plan, which was adopted by several other provinces over the next decade. In 1958, the concept was finally accepted by the federal government as a national hospital insurance plan. This plan for hospital services incorporated five fundamental principles which in 1984 were reinforced in *The Canada Health Act*. These principles are:

- (1) *Universality*, public health care insurance must be provided to all Canadians;
- (2) *Comprehensiveness*, all medically necessary services are covered by public health care insurance;



- (3) *Accessibility*, financial or other barriers to the provision of publicly-funded health services are discouraged, so that health services are available to all Canadians when they need them;
- (4) *Portability*, all Canadians are covered under public health care insurance, even when they travel within Canada and internationally or move from one province to another; and
- (5) *Public administration*, which requires provincial and territorial health care insurance plans to be managed by a public agency on a not-for-profit basis (Kirby 2002:1) (Vail 2001:6).

In 1960, Saskatchewan expanded its hospital insurance coverage to include medical services and, eight years later, the federal government followed suit in expanding the national insurance program to cover physician services. The combined program (hospital and medical services ) was called ‘Medicare’. While this medicare system covered hospital and medical services, it did not cover home care, drug therapies, home medical equipment, assisted-living supplies and equipment and health services such as physiotherapy and occupational therapy, services increasingly needed in recent years because of an aging population and increased chronic illness (Roddick 2001:10). During the decades of the 1970s and 1980s the health industry continued to expand with new technologies and increased service demands.

The *Canada Health Act* “affirmed the federal government’s commitment to a universal, accessible, comprehensive, portable and publicly administered health insurance system. The Act’s aim was to ensure that all residents of Canada had access to necessary hospital and physician services on a prepaid basis. The Canada Health Act defines for the provinces the criteria and conditions that they must satisfy in order to qualify for their full share of the federal funding transfers”(2004:1). Under the Canadian constitution the provision of health services is a provincial prerogative, making funding agreements between the two levels of government extremely important.

### **2.2.2 The federal/provincial funding agreements**

Funding has been a primary issue in dispute between the federal and provincial governments since the incorporation of the publicly funded health system. Over the decades there have been three major financial agreements between the governments, each having its own imprint on the health industry. The first federal transfer arrangement for health began in 1957 with the *Hospital Insurance and Diagnostic Services Act* in which federal funding matched the costs of providing hospital insurance in the provinces on a per-capita basis. In 1968, with the passage of the *Medical*

*Care Act*, federal contributions were extended to physician services. This agreement was described thus:

These funding arrangements were based on 50/50 cost sharing for eligible provincial hospital and physician services, not all provincial expenditures. The federal share in the final year of this cost-sharing regime for total physician and hospital services was close to 47%, which can easily be assumed to be close to 50% of eligible services (cited in Romanow 2002:36)

By 1977, due to burgeoning costs, the federal government introduced the second transfer agreement known as Established Program Financing (EPF) which imposed limits on federal contributions in return for the transfer of tax points to the provinces. This agreement:

..... effectively broke the link between actual expenditures for hospital and physician services made by the provinces and territories and the level of transfers [funding]for health. From this point on, increases in federal funding were based on a formula in which transfers increased in relation to growth in the economy (measured as per capita Gross National Product) rather than based on actual provincial and territorial expenditures for hospital and physician services. The importance of this change was that after EPF, provincial expenditures on health that exceeded the rate of economic growth and population were borne exclusively by provincial governments (cited in Romanow 2002:37)

The provinces soon discovered this new funding formula could be changed by the federal government. In 1982, the federal government unilaterally changed the formula, then in 1989 reduced entitlements and later froze the funding at the 1989/90 level. As the federal contributions were decreasing, health industry costs to the provinces were expanding, leaving the provinces to absorb an ever-increasing share of costs. As this inverse relationship continued, conflicts developed, as acknowledged by Romanow:

Provinces accuse the federal government of no longer shouldering its traditional share of the rising costs of health care while the federal government counters by saying provinces have chosen to finance tax cuts over health care (Romanow 2002:36).

Negotiations between the two levels of government produced little relief. In 1995, the third federal transfer agreement was introduced in the form of the Canada Health and Social Transfer (CHST) which was contentious from the start:

In addition to health care and post-secondary education that were part of the EPF, social assistance and social services were added to the new omnibus CHST transfer. . . . . The combination of funding three major social programs through a single block transfer, in addition to the complexities of the cash and tax portions of the arrangements, make estimating the value of the federal contribution to health care extremely obscure to even the most informed (Romanow 2002:38).

Boychuk argues that in this CHST arrangement the federal government slashed its contribution to social programs from \$18.5 billion to \$12.5 billion, reducing their original fifty percent contribution to slightly more than twenty percent. For some provinces this figure was even lower (for British Columbia the federal contribution was only twelve percent) (Boychuk 2002:12). In addition, under the CHST, there was no mechanism for natural increases in health-care spending in the calculation of federal transfers. Any increases in CHST were at the discretion of the federal government (Romanow 2002:39). This funding shortfall has left the provinces with little maneuverability to improve health care and provincial leaders warned their residents that health care spending was “crowding out” other public spending and priorities such as education, infrastructure, debt reduction and tax cuts. In 2002, a Senate Committee added that:

The publicly funded health care system is not fiscally sustainable given the funding levels and that, consequently, more money is needed to restructure and renew Medicare and to close the gaps in the existing health care safety net (Kirby 2002:3).

In 2004 when the federal government, prior to an election, finally agreed to transfer billions of additional funds to the provinces as a one-time offer, the provinces argued that it was not enough to compensate for the previous years of decreasing payments. While this Senate Committee recommended increased federal presence in Medicare (Kirby 2002:5), there is no evidence to date that this recommendation is being considered. As federal/provincial negotiations continue, it is important to understand the revenue source (s) for such funding.

### **2.2.3 Source(s) of health revenue**

According to Romanow, “seventy-one percent of the total funding for Canada’s health care system comes from taxation”. Romanow points out:

In countries such as Germany, Japan, France and the Netherlands, the majority of funding for health care comes from social insurance premiums in the form of employment payroll taxes. In most developed countries (other than those that rely heavily on social insurance) between 70 to 80% of total health care is funded through the taxation system (Romanow 2002:24).

Although Romanow believes that Canada does not appear to depend too heavily on taxes, he does admit that Canada differs from other countries in the area of co-payments and user fees:

While Canada relies almost entirely on taxes to fund hospital and physician services, co-payments and user fees for these services are common in most OECD countries. At the same time, Canada relies more heavily on private insurance and out-of-pocket payments for health care services that are not covered by the Canada Health Act (Romanow 2002:24).

Kirby argues that “Canada’s personal taxes are the highest of the G7 countries and among the highest in the OECD” (Kirby 2002:4). Thus, if Canada’s single public funder/insurer system is to survive then both Romanow ( asking for an additional \$6.5 billion) and Kirby (asking for an additional \$5 billion) see the only solution as an increase in federal funding to the program obtained through other forms of taxation (Kirby 2002:30);(Romanow 2002:xxx - xxxiv). Knowing that more direct taxes would not be politically acceptable, Kirby explored such options as, earmarked taxation, payroll taxes, national health care premiums, user charges, medical savings accounts and pre-funding for health care (Kirby 2002:16-23). Both studies, while acknowledging the high tax burden on Canadians, recommended that the only solution to health cost increases was to further increase taxes or other public payments.

While taxation makes up seventy-one percent of health care revenue in the form of provincial and federal personal and corporate income taxes, some provinces have already introduced other funding strategies. For example, British Columbia and Alberta, two of Canada’s western provinces, use health-care premiums (2002:3). In addition, British Columbia directs some funds from a provincial lottery towards health care, demonstrating that other funding measures have been considered. With the public resistant to increased taxes, survey findings suggest that they would support any increase in funding for health services from surplus funds, co-payments or other government programs (Vail 2001:21). While national health studies have explored other options, to date, taxation and premiums remain the primary funding sources.

The above material on federal/provincial funding agreements and revenue sources is a brief summary of a highly complex topic. The purpose of this material is to provide an understanding of the reasons for health reform at a time of rising health costs. What is evident is that after three

decades of growth, the major burden of funding the health industry has shifted to the provincial governments who find themselves borrowing from other public programs to sustain health care. The next issue is to understand why health costs are rising so rapidly.

#### **2.2.4 Health industry costs**

In thirty years Canada's spending on health care has gone from 7 to 9.1 percent of the Gross Domestic Product (GDP). Romanow reported that public costs have gone from 5 percent to 6.5 percent of the GDP. However, in comparing Canada with specific OECD and G7 countries, he believed that:

...Canada's spending on health care on both a per capita basis and as a percentage of GDP is slightly higher than the OECD average but very comparable to the G7 average (Romanow 2002:32)

But health costs in these countries may not provide an accurate and valid comparison. Alvarez states that although "health expenditure as a percentage of GDP has increased in all the G-7 countries over the past twenty-two years" (cited by Somerville 1999:29), this comparison with Canadian health costs does not take into account population and economic variables. More specifically, since 1977, the growth in health industry spending in Canada has averaged 0.8 percent higher than the growth of the economy. It has increased from \$11 billion in 1977-78 to \$56 billion in 1999/2000. For a brief four years in the mid-1990s (1993-1997) health care expenditures in Canada actually declined at a rate of 0.6 percent a year, but rebounded again in 1999. It is for this reason that Boychuk concluded:

The existence of a fiscal crisis of health care in Canada is not evident in current expenditure patterns... Provincial health expenditures relative to GDP are the same now as they were a decade ago and recent patterns of expenditures increases are, in part, a response to pent-up demands created by expenditure restraint in the mid-1990s (Boychuk 2002:iv & v).

Boychuk insisted that as the provinces recovered from the 1993-1997 fiscal restrictions created by reduced federal funding, they began to reinvest in the health system. By 2001 the provinces had almost reached the amount that they would have spent in the 1992-2001 period if they had simply maintained per capita expenditures at the 1992 level (Boychuk 2002:3). But Kirby argued that Boychuk did not consider earlier federal/provincial funding issues or projected costs which were expected to increase at a rate higher than the growth in either GDP or government revenue. In addition, Boychuk saw health care crowding out the provision of other public goods as strictly a provincial issue whereas Kirby saw it as affecting both levels of government (Kirby 2002:3).

The Canadian Institute for Health Information (CIHI) reports that, after inflation, in 1999 health spending nationally grew by 4.4 percent and another 4.9 percent in 2000 (Fyke 2001:71). By 2001 CIHI had estimated that health expenditures accounted for 9.3 percent of GDP, down from the 1992 peak level of 10.1 percent. Health-care spending was accounting for approximately one-third of all provincial program expenditures (2002:3). It is estimated that even with modest changes in the current pattern of service delivery, health expenditures will increase by approximately 5 percent per year over the next twenty-seven years, for a total increase of almost 150 percent by 2026 (Mazankowski 2001:1). It is this long-term projection which is troubling for all governments:

.....the critical issue is not so much whether Canada's health care system is financially sustainable today but whether it will be sustainable in the future, given the current trends and increasing costs (Romanow 2002:31).

The question is what is contributing to these increased costs. Are there specific items or is it a combination of factors?

One reason for the rise in health costs is that, since the 1960s, many new complicated surgical procedures such as cardiac bypass, hip replacement, or organ transplant, and special-care units have been introduced into the health service. An example of this cost increase is provided by Dr. Penny Ballem, Deputy Minister of Health Services and Health Planning for British Columbia:

Advances in coronary angioplasty – balloon angioplasty- will give you an idea of the kind of incremental costs we're talking about. We currently provide about 4,200 procedures a year for the province at a cost of \$14 million. In 1995, 3,000 cases were performed at a cost of \$6.6 million. We've increased our services by 40 percent but our costs by 112 percent. Why is this? Well, first, the actual techniques and technology have improved. The improvement gives us better outcomes, but it costs more – more expensive catheters, more expensive technology. You need better expertise, so you've got higher training needs. Even though we get better outcomes, the incremental cost rises (cited by Roddick 2001:7).

Similarly, the number of pharmaceuticals which doctors can prescribe have increased over the decades and have also contributed to the rising cost of health care. In the early days of Medicare prescriptions were limited to a few hundred (Roddick 2001:7), whereas now, as Kirby reported:

The cost of drugs currently accounts for over 15% of total (public and private) health care spending.....between 1990 and 2000, drug spending per capita increased by almost 93%, more than twice the average increase for health care spending in total (Kirby 2002:2)

Cost increases can also be attributed to doctor and patient behaviour. The doctors, identified as the gatekeepers of the health system, order the tests, procedures and medications and do the surgery. As such, the doctors have often been accused of over-servicing their patients which they attribute to increased liability if they fail to provide the highest quality of care. While increased technology and greater utilization of services have been seen as key contributors to increased costs, Romanow has commented:

The cost of hospital and physician services has grown at a much slower rate than other health care services and programs covered by the provinces and territories.....per capita spending on hospital and physician services is currently no higher than it was in 1991 when it reached a peak of \$1,265 per person (Romanow 2002:32)

Nevertheless, such costs remain high and even if they are growing more slowly than in the past, without controls, continued cost increases can be expected.

As for the public, there are two main trends which affect service utilization. On one hand, the public's expectations of a publicly funded health system continues to grow, aided by direct media marketing of the latest health technologies and pharmaceuticals and the public's increasing access to the Internet. Today, impatient consumers of health services expect faster access to care and are frustrated with long waiting lists. They also come to the doctor's office armed with the latest health information obtained from the Internet, and insist on e-mail access for physician/patient communications and web sites to check on their doctor appointments and surgical waiting status. This trend is expected to increase as the baby-boomer generation enters its senior years. On the other hand, there is a certain population that have traditionally over-utilized the health services:

It is a well-known and extensively documented that a relatively small proportion of the population use a very high proportion of health care services, both in any one time period and over longer times. A recent study in B.C. [British Columbia]...shows that the five percent of the adult population with the highest use of physicians' services (measured in dollars of billings) not only accounted for 33.7% of total billings, but made up 43.5% of hospital admissions and used 69.3% of inpatient days (Kirby 2002:21).

The possibility of limiting public expectations has not been addressed by either federal or provincial governments. A totally publicly funded health system has been entrenched by Canadian federal politicians as a citizen's 'right', preventing any major changes in a program that was created to address the health needs of prior decades. Controlling the behaviour of physicians and/or patients may prove difficult in a society well-indoctrinated with consumerism within a free health system.

Other factors have also been identified as contributors to rising health costs. They include: the growing elderly population, particularly the age group eighty-five and over requiring more long-term care; new diseases (i.e. HIV/AIDS) and drug-resistant diseases (e.g. Tuberculosis); changing expectations (e.g. home care); higher rates of chronic illness; and a growing shortage of professional resources (i.e. doctors, nurses, and other professionals) (Mazankowski 2001:2). While a cross-national comparison of health systems using Organization of Economic Cooperation and Development (OECD) data in Europe dismissed an aging population, physicians, hospitals and technology as contributing to health costs on their own (Reinhardt, Hussey et al. 2002:3), the study did not provide any practical solution to the inevitable absorption of public funds for health care if such costs are not brought under control. This ongoing struggle to control health costs became the focus of innumerable studies and has been presented as the primary reason for health reform.

### **2.2.5 Methods of health reform**

Common themes in health industry studies (Mazankowski 2001:6-10) (Fyke 2001:90-94) have been the need to improve the organization of the industry, increase quality and accountability, better manage human resources, undertake primary care reform and focus more on population health rather than acute care (hospital) medicine (Roddick 2001:8). Two fundamental approaches in dealing with the Canadian health industry funding pressures have emerged. One perspective insists there is enough money in the system and that improved efficiencies should be the main thrust e.g. restructuring the health care model, removing fee-for-service payments to doctors and expanding primary care reform. The second view holds that, while restructuring and reform are necessary, new money is also needed. (Roddick 2001:9). Currently in Canada both views are guiding the actions of provinces as all parties realize that simply throwing more money at the system without fundamental reforms will not achieve long term sustainable benefits. Faced with steadily rising health costs and reduced funding, health reforms have been gradually introduced.

One of the first steps in health reform was to try and reduce health-service utilization. In this regard the Canadian government has heavily promoted preventive care and primary care change. By promoting a better lifestyle through diet, exercise, and less invasive therapies, it was thought



that the population would be healthier and thus need fewer health services. Should health services be needed, an improved primary care route would address minor and/or chronic health problems, reserving the more expensive services for those with critical illnesses. Primary health care, a patient's first point of contact with the health care industry, would be composed of groups of health care professionals including physicians, nurses, nurse practitioners, physiotherapists, dietitians, midwives, and psychologists (Kirby 2002:1). According to Romanow:

It is about transforming the way the health care system works today – taking away the almost overwhelming focus on hospitals and medical treatments, breaking down the barriers that too frequently exist between health care providers, and putting the focus on consistent efforts to prevent illness and injury, and improve health (Romanow 2002:116)

Such measures were expected to save money and improve health. But in an assessment of the development of such primary care initiatives, Romanow states that: “progress to date has been fragmented and far too slow”. Unable to move more rapidly along this route the Canadian provinces, the providers of health services, have proceeded with other strategies.

In a move towards increased privatization the provincial governments began to de-list (i.e. remove from medicare funding) certain provincially funded services. The items de-listed in Canada were remarkably similar to those de-listed earlier in Britain (Tuohy 2001:27) and in Australia (Murray 2002:12). This de-listing automatically opened the door to private health insurance to cover such health services as dental and eye care, physiotherapy, occupational therapy, prescription drugs, ambulance services, and upgraded hospital accommodations. This gradual move towards privatization was expanded in recent years to include the introduction of private medical diagnostic and treatment clinics, expansion of private industries in the health system with public/private partnerships, and outsourcing of institutional services such as laundry, dietary, and housekeeping (Fuller 1998:5). The reaction of Canadians to such privatization is mixed. Some Canadians believe that any element of privatization creates a two-tiered health system, with the rich having differential access to care than that available to the poor. But this view is not held by all. A 2001 opinion poll by the Conference Board of Canada found:

40 to 50% of Canadians do not oppose a move towards a two-tier system (i.e. the availability of a privately funded system in addition to the publicly funded one), particularly in the event that the public system is unable to provide them with the necessary services (Vail 2001:ii)

Kirby predicted, the move toward privatization may be initiated through a different route altogether. He stated that “under the Charter of Rights and Freedoms, governments may no

longer be able to deny Canadians the right to purchase private health care insurance that would enable them to receive and pay for health services in Canada” (Kirby 2002:31); in short that regardless of majority opinion, privatization may be sparked by individual Canadians demanding a right to other care options. Kirby’s forecast became reality on June 10, 2005 when the Supreme Court of Canada ruled that:

...the Quebec [an eastern province of Canada] ban on private insurance for medically necessary services violates Quebec’s charter of rights because care in the public service is so slow and it endangers life and personal security (Bueckert 2005:1).

The Quebec provincial government has requested a delay in implementation of the ruling but this decision has opened speculation that increased privatization of health services in Canada is imminent.

What is not clear to many Canadians is that Canada’s Medicare system is already thirty percent private. Some form of private system has existed in tandem with the public system from the beginning of Medicare. This private health system has been in the form of private not-for profit but publicly-funded facilities (i.e. long-term care institutions) and private care for ‘not medically necessary’ services (e.g. cosmetic surgery). So, it is not surprising that policy makers feel that what is needed is to convince the public of the benefits of a more balanced public/private system in which the health needs of its citizens can be met fairly, equitably and in an economically rational manner (Roddick 2001:63 & 64). To support this public/private plan, Ramsay states that a publicly or privately funded health care system can deliver timely, quality care. He also notes that other countries with a public/private health system have measures to ensure their citizens receive care when needed regardless of their ability to pay (Ramsay 2001:5). In the end, how Canada addresses the public/private issue will depend very much on what the political climate will tolerate. So, while the first reform step of de-listing services met with some resistance, the policy has continued to evolve across Canada with provinces considering different privatization paths.

The next step in reforming the health industry was to address the government’s concerns over the need for greater efficiency in service delivery. Surveys showed that seventy-eight percent of Canadians believed that waste, duplication and overlap of services and programs posed a significant threat to the viability of the health system. According to Vail, many fiscal pressures on the health system may possibly be due to mismanagement (e.g. lack of planning, duplication, political expediency) and/or abuse or misuse by patients and providers (Vail 2001:20). But Fyke argued that trying to determine the efficiency of the health system has been hampered by a lack of data on the cost of basic procedures and services such as a routine X-ray, because no one has been asked to collect such data. This argument supports those who are against simply pouring more

money into the system as they see public funds being wasted, often in large quantities, at the same time that people need timely, quality services (Fyke 2001:72).

Recognizing these data limitations, policy makers proceeded with cost restraints from 1993-1997, reducing federal government funding to the industry in order, as they saw it, to apply pressure to the health organizations for greater service cooperation and coordination. Tuohy refers to this measure as “incremental reform under fiscal duress”. She says that in the Canadian approach:

The mechanisms of fiscal constraint were blunt, and left the essential design of the system unchanged. There was no experimentation with ‘internal market’ reforms as in Britain and New Zealand, and no deliberate shifts in policy to favour private finance as in Australia (although the system underwent a degree of “passive privatization”....)(Tuohy 2001:12)

The funding shortfall resulted in an expected reduction of services which in turn increased waiting lists for diagnostic and surgical procedures and, in some instances, increased premium payments.

Funding reductions proved to be an effective catalyst for change as provincial governments moved to reduce duplication of services by amalgamating health facilities, particularly those providing similar services (i.e. hospitals) or those in close proximity to each other. Amalgamation progress has been slow for many reasons including; the complexity of organizations, ownership of health institutions, and the willingness of both the public and professional groups to cooperate in such change.<sup>1</sup> Nevertheless, several provinces, recognizing the cost-saving implications of such amalgamations, took the additional step of introducing regionalization. The reform method of regionalization incorporates all health services (i.e. short-term and long-term hospital services, community services such as public health, long-term nursing care, mental health and addiction services) within a geographical region under a single governing board and management structure.

Health-care regionalization has been a well-recognized concept in Canada for over fifty years. It simply has become more prominent in the past fifteen to twenty years (Lewis 1997:4). Regionalization was intended to address such items as: system fragmentation, excessive dependence on the medical model, extensive duplication of services, an unresponsiveness to local needs, institutional, provider interests taking precedence over user interests, and a need for greater accountability (Kouri 2002). This concept was facilitated by a funding formula which placed emphasis on population health rather than on individual health (Lewis 1997:1). In time, as each

---

1: Personal experience: As an Administrative Consultant with the British Columbia Ministry of Health I was responsible for introducing such changes in the 1990s.

province worked to reform their own health system, regionalization became tailored and varied in size, structure, scope of responsibilities, and number of regions.

Thus, in Canada the steps used to control health costs, increase efficiency and streamline health services were prevention of illness, primary health care, privatization and regionalization. Provinces adapted these processes in different ways over the past ten to fifteen years and the outcome has varied from one province to another because of different regionalization plans, geographic and demographic issues and competing agendas. It took some time for the public and health community to react to such changes.

### **2.2.6 Reaction to health reform in Canada**

Reactions to health reform in Canada have been varied. One criticism challenged the need for such a massive change when less drastic measures may have worked equally well. Saul states that in this push for health reform, society is “confusing symptoms for systems and are seeking new directions to resolve society’s fundamental problems”. In this light, he says:

We regularly advocate abandoning a tired, unfortunate past in order to progress to something entirely new. This tendency to consider only what are perceived to be new solutions is one of our era’s most dangerous failings, as it often serves a purpose quite different from solving problems (cited by Somerville 1999:4)

In asking whether the degree of health reform was necessary, Saul goes on to say:

There is a considerable difference, after all, between diagnosing a systemic problem that affects an entire organism, and identifying a symptomatic problem that requires not replacing the whole system, but rooting out the cause of the symptoms (cited by Somerville 1999:4)

While the health community supported Saul’s view on health reform, this was not necessarily the perspective held by the public. In a 2000 public survey almost ninety percent of respondents indicated that “a lot of change” was needed in the Canadian health system (Vail 2001:9). The question was the degree of change. A 2001 survey of the Canadian College of Health Service Executives (CCHSE) found the major issue with regard to organized, strategic health system revitalization was a lack of consistent vision, constant change and shifts in direction. The college felt that excessively rapid and often unplanned change undermined the ability of the system to provide quality care for Canadians. The findings also showed that each change in leadership brought different visions, styles and priorities. The linkage of health care reform and cost containment was considered erroneous, and the magnitude of the change was underestimated

(2001:ii). Studies were beginning to show that this massive social experiment was ill-planned and cost savings, supposedly the primary reason for such change, were not substantiated.

In 2002, the Canadian Centre for the Analysis of Regionalization and Health (CCARH) released the results of its second cross-country survey of regional health authority board members, senior managers and government officials. Support for health reform remained strong across the country, but a third of the respondents believed service quality had declined as a result of rapid change and inconsistent funding. Regional health authority respondents felt they were being restricted by provincial governments and, surprisingly, health ministry officials generally agreed. Only half of the board members, and a third of the regional health authority, chief executive officers and health ministry officials, believed the division of authority between the health authorities and provincial officials was clear. Seventy-one percent of all government respondents, but only a quarter of those with the health authorities, believed vested interests had too big a say in board decisions (2003:1) These findings support Saul's argument that such massive restructuring of the health industry has driven the industry to concentrate on care requiring increased technology and services, avoiding the prevention of illness, a focus which would have required thinking about the shape of society (cited by Somerville 1999:13). Attention and funding continues to be focused on the latest health products and procedures with less effort given to preventative health measures and improved lifestyle.

Another perspective on regionalization as a method of health reform was on the intended objective of increasing access to decision-making, understanding and participation by the local population. Lewis stated, health regionalization has created an additional bureaucratic step complicating an already-complex structure and actually decreasing participation. He pointed out that regionalization has wiped out a huge governance apparatus of local institutional and agency boards. Not only are there fewer boards but in many communities, particularly rural and remote areas, power has been "devolved up" since every local program and service is now accountable to a regional board. This has forced citizens into a stretched concept of community and has made regional health decisions both a programmatic and symbolic issue for a small community's self and external image. In the end, the concept of mobilizing decision-making at the regional level has not replaced the provincial or federal dimension of health politics, it has simply added another management layer to the system (Lewis 1997:2). The main question which remains unanswered is, whether or not these reforms and an additional layer of management has contributed to a reduction in costs.

The link between reform and savings was addressed by Strassman who stated that reinventing government does not deliver savings if the scope of government services keeps expanding, which is precisely what is occurring in most health jurisdictions. Strassman says:

It is difficult to understand how executives can subscribe to severe reengineering practices while preaching individual empowerment, partnership, participative management, knowledge-driven enterprise, learning corporations, employee stock-option gain sharing, fellow-worker trust, common bond, shared values, people-oriented leadership, cooperation and long-term commitment. Dismissing employees on a large scale, accompanied by incentives for long-term employees to resign voluntarily, paralyzes those who are left with fear and an aversion to taking any initiatives. It will force out those who are the most qualified to find employment elsewhere (Strassmann 1995:2)

What was occurring in the health industry, like other redesigned industries, was that newly restructured organizations had to adapt to changing executive officers who advocated a whole range of complex new management structures and ideas in an environment suffering from a reduced number of experienced staff. These difficulties might have been accepted if a link could have been established between health reform and an improved health status for Canadians. However, linking this key indicator to health reform would be difficult. Lewis states that population health status is largely a function of circumstances outside the control of the health authorities. The regional health authority mandate to improve health status is restricted to outcomes affected by services under its control. In short, unless there is a widely shared public understanding of the political dimensions of health, the health authorities may be facing insurmountable challenges trying to balance cost and service demands (Lewis 1997:11).

Thus, ongoing support of health reform will depend on whether the public and/or health stakeholders continue to recognize the legitimacy of such reform. Lewis points out that the legitimacy of such reform has three elements: whether the provincial government's actions are seen to be credible and well-motivated; whether the regional entities are perceived to be properly structured and entitled to authority; and whether the environment (e.g. concurrent government actions or policies) surrounding the process promotes or detracts from the successful implementation (Lewis 1997:4). Many of these factors have yet to be fully assessed by either the public or policy makers as the reform process is ongoing. The fiscal crisis in health care has been shown to be but one of a number of issues pressuring government to reform, with the public and even many health stakeholders unaware of all the issues. While Canadians continue to struggle with the effects of health reform at home another emerging issue which may introduce further changes to the industry is the globalization of health services.

## 2.2.7 Globalization of health services

Romanow indicates that Canada has been involved with a number of international agreements, all having potential effects on the health industry. These agreements are: The North American Free Trade Agreement (NAFTA), the World Trade Organization (WTO) Agreement on Tariffs and Trade, The General Agreement on Trade in Services (GATS) and the Agreement Respecting Trade-related Aspects of Intellectual Property Rights (TRIPS) (Romanow 2002:236). While each agreement has its own exceptions, according to Romanow, “there are no clear definitions of what constitutes a social service or what determines whether a service is established for a public purpose”. He goes on to say:

To date, Canada has chosen not to make hospital services and a whole array of health services subject to the GATS or to open them to foreign private investment or delivery by foreign-based companies (Romanow 2002:236)

There is concern that if the federal or provincial governments make changes in the health industry, the international door could be opened. For example, according to Romanow:

If governments were to include some expanded level of pharmaceutical insurance, incorporate some range of home care services under the *Canada Health Act*, or allow private for-profit organizations to deliver health care services, then international trade agreements could come into play (Romanow 2002:237)

The June 2005 decision of the Supreme Court of Canada, noted earlier, in which the ban on private health insurance for medically necessary services violated Quebec’s *Charter of Rights*, may have opened the door to greater private health services and, thus, greater international input into Canada’s health industry. Kirton already anticipated such a move and says:

Canada could see much of its medicare system whittled away under the WTO [World Trade Organization] General Agreement on Trade in Services. Services such as labs, food services, janitorial services, accounting, data processing, telecommunications and even hospital administration in the form of management consulting are already under the purview of the WTO’s agreement on trade in services (cited by Laidlaw 2001:1).

The provincial governments in Canada are caught in a dilemma. Without health reform they cannot control rising health costs which are adversely affecting other public programs, and if they do make reforms they are potentially opening the international trade door. With such competing forces from both inside and outside the country, Canada’s health reformers will have a major

challenge in trying to adhere to the values of Medicare's founders while acknowledging the view of such writers as Somerville who believe:

Health care is not just a business like any other business. It is not just a matter of statistics and bottom line. Our decisions about health care must factor in our deepest sense of ourselves, both as individuals and as a society, our most important values and beliefs about the meaning of human life and what it means to be fully human, humane and caring (Somerville 1999:xiv).

Whether a balance of such social values, quality health services, economics, and globalization can actually be achieved will be left to future researchers. What is clear is that globalization has become another factor in health reform, a factor which could change the industry profoundly in the years ahead.

The material in this section has shown that Canada's publicly funded health industry was molded to suit the values of a post-Depression and World War II generation. This publicly funded health industry evolved to become a monopoly with the government becoming the insurer, provider and evaluator resulting in "little choice and competition in the system" (Mazankowski 2001:25). Over the years health services increased in complexity along with increased demands. Funding for the health industry was dictated by the federal/provincial funding agreements. As federal funding decreased, provincial funding and responsibilities increased with health care absorbing more and more of the provincial public budget. Efforts to control costs and utilization introduced policies for increased prevention of illness, changes to primary care, increased balance in public/private services, and finally regionalization. But health reform along with a recent federal legal action may have also opened the door to international trade agreements which have the potential for even greater change in the industry. Reactions to health reform have been slow and mixed as health communities tried to adapt to ongoing change in having their health needs met in different ways. Two key outcomes of such reforms are that quality of care seems to have suffered and cost savings remain in doubt. The reasons for health reform are clearly complex, with economics and global pressures dominating the list. Canada is not alone in reforming its health industry, other countries faced with similar fiscal pressures have also begun to restructure their health systems, the focus of the next section.

### **2.3 International health reform**

This section will show that there are similar reasons for health reform in other countries. Increased health costs and diminishing funding is affecting the industry in many western countries. Not all countries in this review have a publicly funded health system but the common



characteristic is that in recent years their health industries have experienced a great deal of change. While different health reform methods have been used the outcomes have similar characteristics. The material in this section will provide a brief description of health reform in selected countries and the reaction to such change.

### **2.3.1 Australia, United States, Britain, and Europe**

According to Roddick, “most industrialized nations are grappling with how to provide high quality, efficient and medically necessary health services at an affordable price, and accessible to the public regardless of its ability to pay” (Roddick 2001:6). Tuohy notes that, like Canada, “the basic parameters in the Australian health system remained largely intact in the 1990s, while incremental changes were made” (Tuohy 2001:12). The key feature of reform in Australia has been to maintain “a tripartite system of finance involving public funding, out-of-pocket private payment, and private financing across a broad range of services while increasing the role of private insurance.” (Tuohy 2001:20 & 21). Such reform was attributed to “the health needs of an aging population, inequalities in the system, the public’s ability and desire to buy as much health as possible, uncertainties of long-term health costs, concerns over an insurance market failure, information flow between provider and patient and the appropriateness of care” (Podger and Hagan 1999:2).

In the United States, where a unified publicly funded health industry has been rejected, the picture is quite different. The United States health industry has been described as “less of a system and more a tangled, highly fragmented web that often wastes resources by providing unnecessary services and duplicating efforts, leaving gaps in care and failing to build on the strengths of all health professionals” (Deckard n.d.:5); (Moini and McMullin 2001). In 2002, healthcare spending in the United States health industry increased more than 8 percent and employer premiums (i.e. covering sixty-seven percent of Americans) rose into the double digits. Such increases have resulted in employers either opting out or decreasing their insurance coverage, a threat to basic health coverage for many Americans. Robinson argues that health care expenditures need to be controlled but that no one seems to have any idea about how to do it. Under the current arrangement, such costs are usually shifted to the consumer (Robinson 2002).

According to Huntington, whether due to fiscal concerns or market expansion, during the 1990s the American health industry experienced an unprecedented restructuring featuring a large number of mergers, acquisitions and closures of hospitals as well as a major shift in where and how care was delivered. With the failure of the national health care reform proposals in 1994, some argue that the major push for this restructuring appears to be unbridled competition,

corporatization of the industry and the growth of managed care. This reorganization has now stagnated leaving the public uncertain as to what lies ahead (Huntington 1997:1; Fong 2003).

The Medicare system in the United States, created to provide broad coverage for the costs of mainly acute (hospital) health services for the elderly, is now under review in anticipation of the baby boomers entering retirement around the year 2010. This publicly funded Medicare system has shown a population increase from 19.1 million at its inception to almost 34 million in 2002, and benefits totaling \$277.4 billion (or \$237 billion USD) in 2001. Spending has risen from an average of \$253.98 (or \$217 USD) to \$6378.86 (or \$5,439 USD) per capita. These spending outlays accounted for twelve percent of the federal budget and nineteen percent of total national spending for personal health services. There are currently calls for reform of this system because of the many gaps in the programs (Jennings 2002:58) but political will and competing agendas have prevented any major action to date. The one concession noted by Tuohy was that the budgetary politics of the 1990s led to reducing payments to providers (Tuohy 2001:18 & 19) with no major reform of the health system. Perhaps Tuohy's analysis of the situation best summarizes health reform possibilities in the United States. She notes that "the fragmented political economy of American health care seems likely to continue to generate political paralysis and market turbulence" (Tuohy 2001:19)

Britain, one of the leaders in health reform in the late 1980s, adopted market reforms in their health industry. Tuohy describes the British approach:

The central aspect of British internal market reform was the splitting of the purchaser and provider roles of the District Health Authorities which had formerly been responsible for managing and financing all the public hospitals in their respective districts. In the reformed system about 100 Health Authorities (HAs) were expected to be transformed into active purchasers and to engage in hard bargaining for the supply of cost-effective hospitals and other secondary services from a range of health care providers (Tuohy 2001:6).

Such reform introduced competition into health service delivery and had physicians purchasing drugs and hospital services for their patients (Tuohy 2001:7). This is the only health industry in which physicians are directly responsible for spending. Health reform continues in Britain as the National Health System (NHS) considers managed care, operational mergers, the creation of new primary and community care organizations, and the introduction of private managers to run failing hospitals (Garside 1998:9; 2002).

Ireland has taken a different approach to health reform by considering a highly centralized health service with the Health Service Executive taking over many of the management functions

of the Department of Health. In addition they are considering more consolidation and amalgamation of services including the abolition of the health board structures, a directorate to deliver regional and local non-hospital services, the establishment of a Health Information and Quality Authority, modernization of supporting services and clearer lines of accountability (2003:19; O'Regan 2003).

In Europe, Italy has transformed its centrally planned, vertically integrated National Health Service into a market-oriented system in which public funders contract directly with individual providers (Taroni, Guerra et al. 1998). In Sweden, hospitals are being sold, and private operators have been encouraged to go into competition with old public monopoly providers in such areas as diagnostic services, nursing services, and surgery. Health care consumers can also go online and see at a glance where the waiting lists are the shortest for the medical service they require (Crowley 2001). The Netherlands has been introducing radical market-oriented reforms since 1988 to achieve a balance between equity and efficiency and has done so by introducing a compulsory national health insurance based on “regulated competition” among both sickness funds and private insurers. The reasons given for these reforms include uncoordinated financial structure, lack of incentives for efficiency, an unworkable capacity planning structure, and problems with the Netherlands health insurance system. To address such matters, the Netherlands government has been replacing chief executive officers with entrepreneurial managers, venturing into managed care, and promoting private clinics (van de Ven and Schut 2000:6; Tuohy 2001:9). The official reasons for health reform and the adoption of a market-ideology philosophy appear to follow a similar path to that of Canada. Health reform appears to be a global trend, one that has been in existence in some countries since the late 1980s.

### **2.3.2 Reaction to health reform in other countries**

The public and health stakeholder reaction to such change in these countries is similar to the views in Canada. In 1998, a study in Canada, the United States, Britain, Australia and New Zealand asked respondents whether they felt their health system needed minor changes, fundamental changes or complete rebuilding. Despite the countries having different health systems, a significant number of respondents in all five countries indicated:

.....fundamental changes were needed to make their health care system better but that the system did not need to be completely rebuilt (Vail 2001:9).

The Commonwealth Fund, a New York-based research organization, found that Americans were more dissatisfied with their system than citizens in Australia, Canada, New Zealand and Britain

(Lieberman 2003:1). A reaction to reform in Australia noted by Tuohy showed that younger and healthier members of society declined to purchase private insurance which was the intent of reforms. A fierce reaction occurred within the medical profession as to whether contracts between physicians and insurers should be resisted as a leading wedge for “American-style” managed care arrangements (Tuohy 2001:22).

In Britain, positive assessments were noted by Tuohy who acknowledged that the reform attempt raised the level of public debate and the transparency of bargaining about health care services (Tuohy 2001:17). Freeman stated that such change helped to destabilize existing institutional structures, made possible some shift of authority from doctors to managers and from hospitals to primary care (Freeman 1998:397). However, Farrell and Morris, while agreeing that reform brought modest inroads in improving organizational efficiency and increased ‘customer choice’, stressed that it also brought new problems. They argued that the new public management model which was supposed to provide greater delegation and autonomy at the local level, actually strengthened centralized political and senior management control, created greater fragmentation of service, increased the numbers of managers and costs, and concluded that the effects on accountability were questionable (Farrell and Morris 2003:130-135).

Welfare-state reform was seen by Farrell and Morris as the introduction of a market-driven ideology which was being promoted in many countries as early as the 1980s. These authors point out that such market-driven ideology resulted in a bureaucracy shift, creating a simultaneously centralized and decentralized form of governance. They called this new structure ‘neo-bureaucratic’ or a bureaucratized market model describing it as:

.....public administration has been ‘hollowed-out’ with the locus of bureaucracy taken away from the middle layers and pushed to the top (the centre) and the bottom (the periphery).....public administration has been ‘delayed’ (Farrell and Morris 2003:149).

However, other studies of the public’s perception of welfare state reform see a more positive outcome. A study by Giaimo and Manow (Giaimo and Manow 1999:93) to determine if health care reforms in Britain, Germany and the United States were eroding the welfare state due to the forced injection of market forces, found that far from converging on a market path, the three countries demonstrated versatility in their health care reforms, combining market competition with other cost control instruments. The employment of competitive market forces in the health system did not necessarily entail a withdrawal by government. The governments in Britain and Germany had intervened in their health care systems, leading the reform process and actively shaping market forces in health care. With these findings the researchers challenged scholars to

rethink the assumption that economic globalization inevitably implies the retreat of the state from social provision. These researchers insist that non-reform would have been just as unpopular at a time of shrinking financial resources. Kallinikos (Kallinikos 2004:13-16) supported this view in stating that with the loosening of ties, the bureaucratic organization has been freed to address shifting contingencies by reshuffling and re-assembling their roles and role patterns. Kallinikos believed that an organization could “emerge as more or less bureaucratic, depending on the intensity by which the key characteristics of standardization, formalization, centralization and role and functional specialization were governing its operation”. Supporting the premise that the welfare state is not in retreat, Bahle indicates that such reforms are an attempt by the welfare state to establish more integrated and controlled systems of social services (Bahle 2003:5).

Freeman sees the push for health reform as an attempt by industrial countries to recover national economic competitiveness in response to their own economic decline. He argues that the decline of economic growth in these western nations has put pressure on welfare state social programs, particularly for those countries with publicly run programs such as health and education. In this argument, the competitive advantage could only be achieved by reducing costs, not by improving quality as advocated by both professionals and citizens (Freeman 1998:397). While it may be argued the welfare state is simply adapting to global circumstances, the underlying reality is that most governments could not sustain ever-increasing health costs at a time of reduced revenue. It is still uncertain if the introduction of a greater public/private balance and increased competition has controlled health costs or simply provided the public with more choice. What cannot be ignored is that the combined decline in the economy of industrial countries and globalization has put greater pressure on all social programs.

Since the late 1980s, many industrial nations have adopted different concepts and timetables in reforming their health industry. Attempts to control health costs is often presented as the main reason for reform, but there are other issues which may also be attributing to this change such as the economic status of the nation, population change (i.e. a rising elderly population), and increased service demands. The market-driven philosophy chosen by so many nations may also support a global agenda forcing these nations to reexamine their social programs, a complex process not undertaken lightly. While health reform has been a reality in many countries for the past fifteen to twenty years, Canada, followed Britain and the Netherlands in this social restructuring. This gave Canada time to review the concepts of using primary care physicians in a leading health reform role or engaging the nursing profession more extensively in primary care, both options which have yet to be implemented. Whatever reform path is chosen, there will be increasing demands for outcome data to account for better quality care and cost controls. The next section will examine health reform in British Columbia, the geographical location of this study.

## **2.4 British Columbia's health reform**

As noted earlier, each province in Canada is responsible for its own health industry and has the jurisdictional right to set its own plans within the boundaries of the national health act and operating principles. This section will focus on the health industry in British Columbia. It will show that the geographic challenges and regional structure of the province affect health service delivery, and that health care costs are absorbing forty percent of the provincial budget, much higher than in other provinces. The province experienced limited privatization as its main reform method has been regionalization of which there have been three different models introduced in the past thirteen years. Since the Canadian reaction to health reform noted in 2.2.6 can be equally found in British Columbia, this section will explore other outcome issues.

### **2.4.1 Geographic challenges of British Columbia**

British Columbia is a Pacific coast province of Canada, bounded on the north by the Yukon and the Northwest Territories; on the east by Alberta; on the south by the American states of Montana, Idaho, and Washington; and on the west by the Pacific Ocean and the American state of Alaska. The crest of the Rocky Mountains forms the southeastern boundary. It is Canada's third largest province in area and population. Much of the province is rugged and mountainous. Most of the province's 4.2 million people are concentrated in the southern part of the province, which includes the largest city, Vancouver, and the provincial capital, Victoria. The following statement best describes the size and complexity of the province when it comes to providing health services:

British Columbia's immense geographical expanse – marked by vast regions of rugged coastline, mountainous and inhospitable terrain and isolated communities – is one of its largest challenges. The scale is daunting: three United Kingdoms could fit into its 950,000 square kilometers with room left over for Denmark, Belgium, the Netherlands and twenty Singapores. The province's average population density per square kilometer is just 4.3 people compared to Germany's 230, the United Kingdom's 242, Japan's 335 and Singapore's 6,500 people per square kilometer (Roddick 2001:11).

This highly uneven population distribution and geographical challenges intensify the problem of delivering uniform, effective and equitable health services throughout the province. An example of a health service challenge is described by a senior health manager in the northwest of the province:

We deliver services to Atlin. That is the same as delivering services from Vancouver to San Francisco (to give you an idea of the perspective). But it is not the I-5 [turnpike] we drive down. It is Highway 37, which is a half-gravel road. In winter there can be as much as four feet of snow on it. A larger percentage of our population has no roads at all (Roddick 2001:11).

In addition, demographic differences in various regions and communities play an important role in the range of health service needs and services required. For instance, due to the milder climate in the southern portion of the province, for decades British Columbia has been the retirement destination for many Canadians escaping the colder regions of the country. This migration of the elderly has created an increased demand for long-term health services. In contrast, the northern regions have a much younger population. Thus, the geographic challenges, population distribution and other factors (i.e. an aging population, increased demands etc.) have created for British Columbia a special set of health service challenges that have contributed to increasing health costs.

#### **2.4.2 Provincial health care costs**

As mentioned earlier, the fiscal crisis in the health industry in Canada is mainly a responsibility of provincial governments, and British Columbia is no exception. Health care costs in the province have increased twice as fast as the economy. The health budget for 2004/05 was \$6.2 billion and is expected to be \$6.6 billion in 2005/2006. Health costs in British Columbia consume about forty percent of the provincial budget and are cutting into spending in other areas such as education, social programs, employment initiatives and maintenance of public works. It is estimated that it costs \$18,075 per minute, \$1.08 million per hour and \$26 million per day to keep the British Columbia population healthy, treat their injuries and illnesses and support their chronic care needs.(Roddick 2001:6). The problem as identified by Boychuk, is:

...downward pressure on provincial taxation rates and ability to maintain fiscal efforts will build as a result of increasing global and continental economic integration. There are reasons to expect that such pressures will be felt earlier and more acutely at the provincial rather than the federal level. Provincial governments are arguably more sensitive to the competitive pressures generated by cross-border economic integration and competition (Boychuk 2002:8).

British Columbia has been caught, like other Canadian provinces, trying to maintain a balancing act of decreasing revenue and mounting health service demands which has become impossible to sustain. Roddick notes:

Even in the healthiest and most buoyant economies it is abundantly clear that such increases in spending for health care alone are not sustainable. In times of economic downturn, as have hit the provinces and North America during the fall of 2001, even maintaining the present level of spending is an enormous challenge (Roddick 2001:6).

In addition, the problem with the current health budget in British Columbia is that according to Roddick, eighty percent of health funds have been directed towards human resources. Such human resource funds have been locked into bargaining agreements with unions maintaining inflexible staffing regulations which allow little budgetary maneuverability. The situation not only stifled innovation and prevented a more efficient, cost-effective deployment of human resources, it also had a direct bearing on service improvements. For example, a federal funding increase in 2000 tended to fuel increased demands for higher wages and expensive new contract settlements (Roddick 2001:9 & 14) with limited improvements in service delivery.

In 2001, health regions were given three years to balance their budgets, a requirement necessitating a number of cost-saving initiatives. While the 1990s had seen reductions in health services due to a federal funding reduction, this 2001 cost cutting was a provincial decision. Having sustained cutbacks in the 1990s, the health industry went through another round of service reductions including the closure of facilities, the restructuring of community programs and the outsourcing of services (i.e. laboratory, laundry, dietary). At the same time, the provincial government began to discuss other funding options such as: user fees (i.e. the patient sharing in the cost of certain services), health care as a taxable benefit, and medical savings accounts, all of which remain possible future considerations if health costs cannot be contained (Roddick 2001:58).

At this time health funding to the regions had not been reduced. Rather what was stressed in this cost-saving exercise was the reduction of budget deficits and the assumption that the provincial government would back any cost over-runs in the industry. Unfortunately, such cost savings arrived at the same time as another round of industry restructuring, further confusing the picture for many. In this cost restructuring, some privatization has been considered but the primary method of health reform in British Columbia has been regionalization.

### **2.4.3 Privatization as a health reform method**

In a 2001 review of health services in British Columbia, privatization was assessed in light of international agreements and the *Canada Health Act* (i.e. how much privatization is allowed). Evidence was mounting that private clinics in neighbouring western provinces (i.e. Alberta and Manitoba) had not improved waiting lists (Roddick 2001:65) and there were concerns that more



private facilities would further deplete existing shortages in physicians, nurses, and technicians from the public system. Several recommendations were made at this time, of which two are of particular interest as they pointed to the possible action of the provincial government. The first recommendation was that:

The government consider public-private partnerships in which capital finances come from either private non-profit or private for-profit investment but patients services are paid from the public system (Roddick 2001:66).

Action on this recommendation has resulted in increased private-public partnerships in the building of long-term care facilities in the province and discussions around greater public purchasing of private services. The second recommendation was that:

The government should investigate which health care services are most amenable to public-private or fully private arrangements. Steps should be taken, such as establishing contracts with doctors and nurses to commit to a set number of hours to the public system, to ensure private services do not weaken the public system or increase the severity of the health-provider shortage (Roddick 2001:66).

There have been increased privatization of diagnostic services (i.e. laboratory, X-rays, MRI and ultrasound services) and some medical clinics. Since such private services are in their infancy, there has been little visible effort to press for increased professional contracts to reduce the drain of health human resources on the public system. While privatization remains in the background, in the past thirteen years, policy makers in British Columbia have focused most of their energies on regionalization as their key reform method.

#### **2.4.4 Regionalization as a health reform method**

Prior to the 1990s, hospitals in British Columbia were structured in a traditional manner with their own Boards, while community services (Public Health, long-term community nursing care, mental health and addictions) were managed provincially through Ministry of Health departments in Victoria, British Columbia. While each community service had its own provincial ministry division there was poor inter-divisional communication, service coordination and cooperation between the divisions. Any change in the industry had to be focused on a single service (i.e. hospitals) as service integration was difficult. For example, trying to integrate emergency hospital services with community services was restricted due to different unions and an ongoing rivalry

between acute and community services.<sup>2</sup>

The first wave of health reform and the introduction of regionalization was initiated in the early 1990s with the creation of fifty-two health authorities; eleven large regional boards (mostly urban), thirty-four community health councils (in rural and remote areas) and seven community health service societies (to manage community services in the regions/communities). At this time community services (i.e. Public Health, long-term community nursing services, mental health and addictions) were decentralized to the regions. With the introduction of this reform former hospital boards were dissolved and replaced by new regional or community boards/councils. The members of these new boards/councils were appointed by the government usually from political, union or advocacy groups, many with no previous health industry experience. New governance structures were created and board/council members spent months clarifying boundary issues, setting up new management structures, and understanding the complexities of the health industry. This reform model proved unworkable as small health authorities (i.e. mainly community health councils) lacked critical population mass for effective service delivery, and many board/council members lacked a clear understanding of their mandate.

By the mid-1990s, the provincial government, had reduced the fifty-two health authorities to eighteen regional health boards by eliminating small community health councils and community health service societies. This second wave of reform pulled communities under a single health board and introduced another round of reorganization of boundaries, roles and responsibilities. By 2001, just as the eighteen regions were getting stabilized, a provincial election introduced a new political party and a third wave of reform. This time the regions were reduced from eighteen to six large regions; five regional and one provincial health authority. The five regional health authorities are: Vancouver Coastal Health Authority (VCHA), Vancouver Island Health Authority (VIHA), Fraser Valley Health Authority (FHA), Interior Health Authority (IHA), Northern Health Authority (NHA). The Provincial Health Services Authority (PHSA) is responsible for mostly tertiary acute care services (i.e. kidney transplant, cardiac open-heart surgery etc.) throughout the province. The provincial Ministry of Health Services sets overall direction and provincial policies, while the health authorities, structured as a corporation, provide health services.

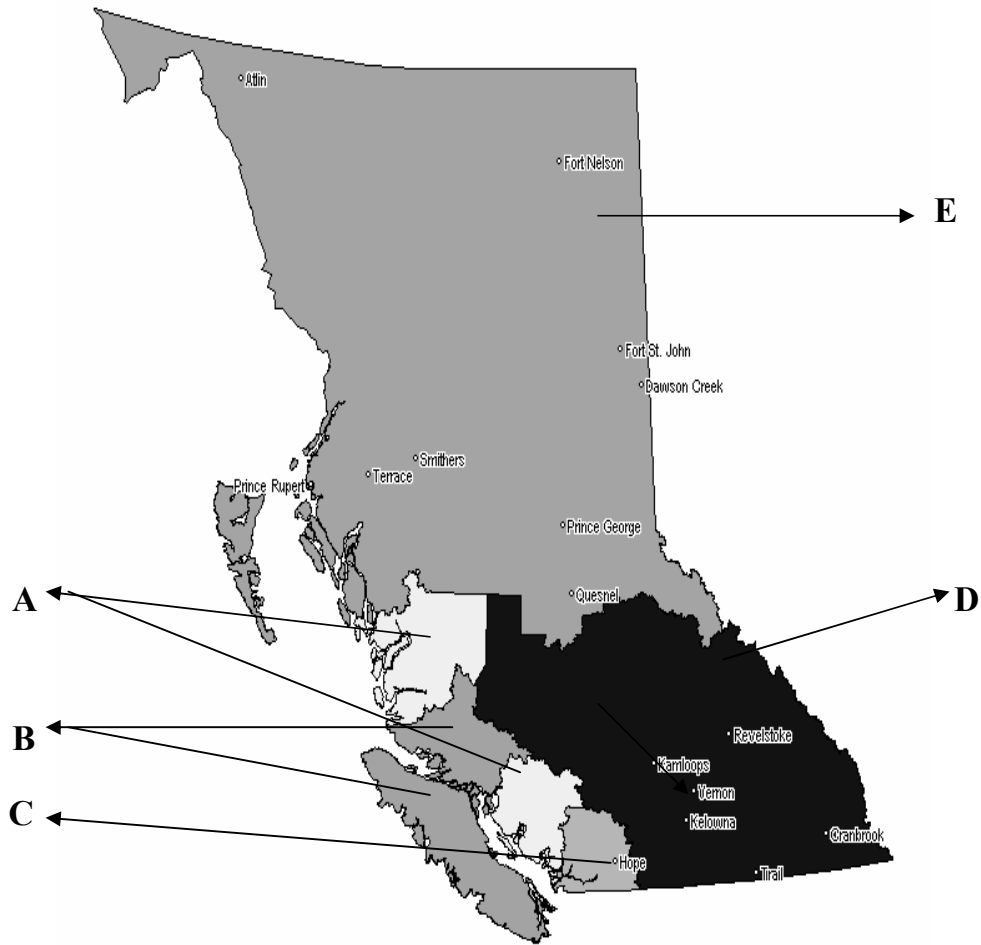
The size and magnitude of these regional health authorities is illustrated in a map on p39 along with a table showing the 2004/05 population and health budget for each region. British Columbia has the largest health regions in Canada. The northern region occupies over half of the province

---

2: Personal recollections. As an Administrative Consultant with the Ministry of Health I was responsible for hospital service issues in the interior regions of British Columbia.

(2003:2). Kouri states, an ideal health region should have social cohesion, reflect historical and geographical patterns of trade and service access, participate in social networks and be large enough for economies of scale in the delivery of services (Kouri 2002). However, the Canadian Centre for Analysis of Regionalization and Health (CCARH) believes effective regional configuration and design is more important than size, including the appropriate patterns of health service delivery in relation to the distributions of populations, health needs and social capacity (2003:3). Service delivery patterns were considered in the new configuration in British Columbia, but concerns remain with regard to the complexities of the regions and the sheer size of the northern region.

According to Roddick, this decade of reform created a constantly shifting organizational structure, eroded the volunteer base of the health industry, and was neither cost-effective nor care-effective (Roddick 2001:21). The health industry has evolved from its traditional delivery model to a decentralized six-region corporate structure. To complicate health reform further, in the years 2002-2004 the provincial health ministry was reduced in size and reconfigured adding further change to the industry. Nevertheless, by 2004 some of the health regions were growing stronger in their new roles, developing their own bureaucracies and looking forward to assuming more responsibilities. An uncertainty constraining this confidence was the possibility that an election in 2005 could generate more reform if another political party was elected. Due to the number of massive industry changes within a short period of time, it was not unexpected that effective reaction was perhaps slow in coming. Most health professionals were simply trying to cope with the changes and the public hardly had time to understand one plan before another was introduced.



Code	Health Authority	04/05 Population <sup>1</sup>	04/05 Budget in millions(\$Cdn) <sup>1</sup>
A	Vancouver Coastal Health Authority (VCHA)	1,054,509	1,633.2
B	Vancouver Island Health Authority (VIHA)	700,729	1,012.8
C	Fraser Health Authority (FHA)	1,470,919	1,418.3
D	Interior Health Authority (IH)	694,543	935.4
E	Northern Health Authority (NHA)	304,357	325.5

Note: Population and financial data was obtained from either the Health Authority web sites or from senior managers.

**Figure 2.1: Map of British Columbia and Health Regions**

#### 2.4.5 Reaction to health reform in British Columbia

In the past thirteen years, the public and health stakeholders in British Columbia had three different reform models to react to; one of fifty-two health authorities, another of eighteen health authorities, and the last one of six health authorities. Some information exists on the first two restructuring processes but it is still too early to find much on the latest reform model. The comments provided at the time of the transition from fifty-two to eighteen health authorities may be similar to those concerning the third reform process. With regard to the fifty-two health authority model Roddick noted:

It is clear from numerous testimonies delivered before the committee that this noble attempt at more local control has been a highly flawed endeavour and has instead created an overly complex, cumbersome, fragmented and bureaucratic system (Roddick 2001:21).

The frustration of one Chief Executive Officer of an earlier health council towards regionalization highlights the frontline problems which arose with these restructuring experiments:

Regionalization has not been cost-effective nor care effective. It has taken away universality in health. Often regions won't accept a patient if the patient is not from their community or region. Two weeks ago we wanted to transfer two psychiatric patients to the South Okanagan. They wouldn't accept them, so we had to send them to Alberta [another Canadian province](Roddick 2001:21).

Policy makers were well aware of the disruptive outcome of such reform measures. Roddick predicted that “restructuring regional health authorities will create a great deal of temporary upheaval- and in some cases, discontent -in the regions”. Despite this assessment a third wave of reform based on further reductions in the number of regions proceeded. The argument given at the time was that the six health regions would create “a simpler and more streamlined structure to improve patient health and access and provide coordinated, unduplicated , effective administration”(Roddick 2001:22). Concurring with Freeman’s comments in section 2.3.2, while some efficiencies have been realized through such restructuring efforts, the outcomes, to date, have not produced the local input, quality care or cost savings which reformers touted as the reasons for such reform.

Although the integration of health services was perhaps the least contentious aspect of regionalization, its implementation has not been without problems as changes were brought in without adequate planning. The stress associated with role changes has caused provider dissatisfaction and labour conflict in many jurisdictions as, according to Kouri, human resources

were often less flexible than expected (Kouri 2002). An example of the type of integration issues occurring in the regions was noted by Roddick:

While the committee heard substantial agreement with the principle of concentrating specialty services in designated referral centers, decisions about regional referral centers will be highly controversial and divisive. For example, which community loses its ICU [Intensive Care Unit], and which community gains the regional designation to concentrate ICU services? (Roddick 2001:23).

Since the health industry is often the main employer in a small community, any tampering with services produces an expected reaction. While simple integration of services may not disrupt job security, the closure of services and/or facilities produced far greater social ramifications. The shift of such basic services as maternal/child care (e.g. the delivery of babies removed from a local hospital to a regional hospital) or closure of beds with the potential loss of a local doctor, were major concerns to small communities. Such changes along with the reduction of local community input into health decision-making remain contentious issues as more and more services are shifted to regional communities to provide increased efficiency. While regional specialty services have grown, smaller communities, still awaiting the promised satellite outreach and/or primary health service build-up, are becoming more vocal in their disagreement with health reform (Roddick 2001:24).

For health reform to succeed and achieve greater accountability, quality information systems are essential. Greater accountability calls for the ability to monitor the use of health services, to track patients, to manage their needs effectively, to integrate service delivery and to be able to compare and analyze system performance. Regrettably, the health industry in Canada does not have a quality information system. As noted by Roddick:

The extreme problem of non-existent, insufficient or incompatible information systems in health care is occurring Canada-wide and is crippling our ability to improve our performance and patient care (Roddick 2001:28).

The British Columbia Minister of Health Services, also admitted:

The health care system in British Columbia is easily a decade behind any other industry in North America when it comes to utilizing information technologies and management tools. It is an expensive process to catch up, but we have to catch up (Roddick 2001:28).

With each health authority purchasing their own information system, integration of health

services and information has been difficult. There have been encouraging advances in technology aimed at connecting doctors, diagnostic laboratories and other services but a fully integrated system still remains beyond reach and may not be resolved quickly because of cost implications. This technological development is not only an accountability issue, it also has an effect on the education of health-care managers, which shall be discussed later in this study.

The major political dimensions of health reform have been on the benefits and/or issues regarding elected or appointed board members. While elected boards have been extensively discussed in British Columbia, to date, board members are mainly appointed. During the 1990s, these appointees were from political parties, unions or advocacy groups which tended to create a more confrontational climate in health decision-making. In 2001, the appointments changed to those from the business community shifting the focus to a market-ideology of business plans and financial bottom line. To date, there has been insufficient research on the effectiveness of elected or appointed board members or whether such appointees from either category with limited health industry know-how and time-limiting appointments can effectively manage a complex social program in today's rapidly shifting environment.

The adoption of a corporate structure and market ideology in health care has not, to date, culminated in providing the public with much choice in health services. Unlike other industries with more focused customer services, the health industry still provides bulk services to patients. A tailored service delivery package coordinated around the individual's need for safe, timely and effective care is still not a reality. The problem which the industry is still wrestling with is that the health industry in British Columbia is still not integrated even after three waves of reform. According to Roddick, the health industry is still seen as being:

....highly fragmented with redundancies and duplications, a lack of communication and coordination, competition among service providers for control of resources and little or no incentives for collaboration. Turf wars are rampant and some providers seem unwilling to alter practices or share autonomy for betterment of patient health (Roddick 2001:11).

This lack of service integration remains a key reason for ongoing reform in order to provide clients with a seamless delivery of health services. The need for such services to be tailored to the individual will be a key challenge in the years ahead. In addition, after years of health reform focused on costs and efficiencies, in the next phase of reform, according to Saul, "we face the challenge of building the role of the public good back into the system" (cited by Somerville 1999:17). After disassembling such a major social program, it is unclear whether social reformers

have the ability or the willingness to fully restore the values and public good which existed prior to health reform.

The six health regions continue to evolve into different bureaucratic systems due, in some instances, to the complexities within their regions because of competing power structures, organizations, boundary issues and/or geography. For the past thirteen years the industry has been in a perpetual cycle of redesign with major and minor reshuffling processes. The public continues to react to local changes and are, in most cases, only vaguely aware of the overall redesign of the industry. As long as the public receives reasonable care, no out-of-pocket expenses, limited waits for services and no increased taxes, their outcries will be muffled. For many health professionals, including health-care managers, rounds of reform have left them angry, disappointed, distrustful, exhausted and uncertain of their future. The health authorities indicate they are achieving cost reductions and a balanced budget due to the reforms, but the public and health professionals may argue that this is at the expense of service quality. For British Columbia, it is too early to measure the effectiveness of such reforms on costs or services, but new layers of bureaucracy can only increase costs without necessarily improving service quality.

Facing unique geographic and health service issues as well as health costs that were absorbing forty percent of the public budget, British Columbia was pressured into reform. The main method of reform was regionalization, with three different models introduced in the province in the past thirteen years. Reform measures have resulted in the amalgamation and closure of health facilities and services, outsourcing, and layoffs. Health reform has met with resistance from small communities and ongoing concerns about service quality and costs. In the end, the health industry has greatly changed from its pre-1990s structure, different reform models have been tested and proved wanting, the positive public opinion of the health system has suffered and the professional community is weary from so much change.

## **2.5 Conclusion**

Health reform has been promoted in Canada, and in most industrial nations, to control escalating costs as governments found themselves cutting other public services in order to sustain their publicly funded health system. Whatever the reasons, Canada and other nations embarked on major health reform, restructuring services (i.e. amalgamating facilities/programs, downsizing, decreasing duplications, outsourcing, layoffs etc.) with the argument that this would streamline service delivery, improve efficiency and reduce costs. While some efficiencies were noted and old bureaucratic blockages disrupted, health reform has also reduced service quality, community input, public support, and increased management, with no assurances of cost savings. Damage to



the industry has yet to be determined and may take decades to assess. Whether providing the public with more choice in the form of balanced public/private options will enable the industry to survive is still unclear. What is certain is that reform will continue. The underlying question is what path this ongoing reform will take and whether the focus will ever shift to increased measures in preventing illness and providing society with a more responsive service.

The main reform path adopted by British Columbia in restructuring a province-wide health industry was regionalization with three different models introduced reducing the number of health authorities from fifty-two to six. The health industry has not only experienced three massive provincial reorganizations, it has also had a number of internal management reorganizations within the health authorities and a restructuring and downsizing of the provincial Ministry of Health. Shifting boundaries, roles and responsibilities and service delivery patterns have left health stakeholders reeling and uncertain. An organization which was already complex at the beginning of reform, increased in complexity with each reform effort. In addition, the ethical dilemmas in redesigning such social programs have also increased. In this regard Kenny notes:

...it challenges policy-makers to create a new vision which understands the importance of equality of health status and equal access to high quality health care. Ethical dilemmas, then, occur in today's health policy environment when we are uncertain about choice or action when a number of important goods are at stake (cited by Somerville 1999:113)

A problem central to recent health reform is its sole concentration on costs to the exclusion of other societal values and quality care. Whether policy makers are capable of functioning on multiple levels is not the focus of this thesis. What is certain is that health reform and the complexity of the health industry demands not only better managers but perhaps a new type of manager. How these new managers will be developed and what new skills they need to function effectively in this reformed environment will be the focus of the next chapter. The questions to be explored in the forthcoming chapters are: what learning is needed for this new breed of health-care manager; are their sufficient educational resources to meet this need; and what options are needed to effectively address this new learning challenge?

## Chapter 3

# Organizational Change

---

Good leaders make people feel that they're at the very heart of things, not at the periphery. Everyone feels that he or she makes a difference to the success of the organization. When that happens people feel centered and that gives their work meaning.— Warren Bennis

### 3.1 Introduction

The previous chapter has shown that the underlying reasons for health reform are expected to continue as governments struggle to achieve a balance between health service demands and fiscal limitations. The official reason for reform in British Columbia was that health costs were absorbing forty percent of the provincial budget and reducing other public services. The main reform method chosen by the province was regionalization. In just over a decade, the province's health industry has experienced three different regionalization models, the most recent in 2001. Health reform has created major changes in service delivery, increased the stress level of health workers, created uncertainty in the public and made few inroads into controlling costs, the supposed reason for reform. Health-care managers were left scrambling to apply for a decreasing number of management positions. The restructuring of the industry increased the complexity of an already complex industry and brought into question many traditional management processes and procedures. The purpose of this chapter is to show how health reform has redesigned the working environment of health-care managers creating new challenges for both the organization and its managers.

In studying the organizational structure of the health industry it is important to first ascertain the similarities between the health industry and other industries. While the health industry may share many identical features with other industries, for many years the industry has argued that it is not like any other industry, it is 'unique'. In describing this uniqueness, Spirn and Benfer argue that while the health industry is a service-oriented business it is not the same as any other service industry (e.g. computer support) as its existence is predicated on the service being provided, whether short-term or long-term. They identify the following features of the health industry to support this unique status:

- It is the most highly professionalized industry in our society;
- Physicians while working as independent entrepreneurs prescribe what resources are to be used;
- Users, providers and the many mechanisms or services interact in a myriad of complex ways;
- The public in a national health system has varying roles as stakeholder, customer and revenue source;
- The service areas are not homogeneous;
- Service changes are planned and implemented mainly on the advice of the industry's professionals not necessarily on customer's needs;
- The service must be available twenty-four hours, seven days a week; *and*
- The customer has difficulty evaluating the quality of service (Spirn and Benfer 1982:307-314).

Savoie adds:

- There is greater risk in dealing with patients; *and*
- Best practices are based on relationships with key groups such as physicians who are not employees (cited in 2005:14).

However, the view that the health industry is unique is not shared by everyone. Danzon, arguing from an economic perspective, states that while the output of the health industry may be unpredictable and imperfectly understood by producers and consumers, and that third-party payment and government intervention are pervasive, none of these characteristics are unique to health care since it still obeys the fundamental rules of economics (Danzon n.d.:1). As the health industry in British Columbia moves towards a more corporate structure this latter perspective may dominate the former 'unique' view. Yet, some argue, viewing the health industry solely as an economic entity subject to management principles and without due regard for the underlying compassion required in caring for people who are ill, reduces the service to a rather cold commodity. Unlike other service industries, the health customer enters the industry in a vulnerable and sensitive state of illness and/or uncertainty. He/she is subject to a variety of diagnostic and treatment measures prescribed for his/her individual state of health with the individual possibly knowing (or not knowing) the risks of such procedures. Having received a treatment and/or service(s), the customer leaves the health care facility either expecting ongoing services or to await a future need for care. Health-care managers coordinate such services through professional and support staff to administer the constantly changing service needs of ill people. The unique role of the health industry in

society was referred to in chapter two and is again highlighted here in the words of Kenny who states:

There is something about the health care system that carries with it a part of the moral and ethical fiber of a nation. We recognize the health care encounter as a place of moral meaning at a time when there are few places where we can address these questions of illness, dependence and morality (cited in Somerville 1999:110).

Thus, while management terminology and practices may be similar, the very essence and service delivery of health care gives it a degree of exclusivity, one that is often forgotten in health reform. These underlying ‘unique’ features of the health industry will be kept in mind as this study explores the effects of change on the organization and its leaders. The material in this chapter will show that while organizational change in the health industry may be similar to that in other industries, the health industry’s ability to respond to change is different. In addressing these issues this chapter has been divided into two main sections: how change affects organizations and how change affects managers.

### **3.2 How change affects organizations**

The question of what constitutes an effective organization has been the focus of many studies and has resulted in many theories. One example is Gardner’s set of rules for an effective organization which state that:

- The organization must have an effective recruitment and development program for talent;
- The organization must be capable of continuous renewal in that it must be a hospitable environment for the individual;
- The organization must have built-in provisions for self-criticism;
- There must be fluidity in the internal structures; and
- The organization must have some means of combating the process by which individuals become prisoners of their procedures (cited in Spirn and Benfer 1982:387)

In the analysis of organizations different theories have been promoted over the years, some more suited to the health industry than others. For example, the scientific theory of Frederick Taylor, and the classical organizational theory of Henri Fayol and Max Webber, fitted the health industry’s task-oriented environment. Later, health professionals were more receptive to the neoclassical (or behavioural) organizational theory focusing on people and

relationships, group pressures and a search for personal fulfillment. Mathematical models emerging in the 1940s found little inroads in the health industry, but by the 1960s connections between technology and organizational processes, and/or a modern systems theory received more acceptance (Sullivan and Decker 1988:23-28); (Grotsky n.d.:4-14). Nevertheless, while such theories have been used for interesting research studies over the years, their effectiveness in changing management practices within the health industry has been limited.

This section will show how organizations have changed, whether the health industry is capable of adapting to change, what change has done to information and learning within organizations, what challenges exist in the new organizational model which is evolving and what it means to change a complex organization like the health industry. The objective of this information is to understand the ramifications of change in an organization dedicated to providing health care to society and what this means for those currently employed or planning a career in this new working environment.

### **3.2.1 Change management in organizations**

Until recently, organizations could count on long periods of stability followed by short bursts of change which evolutionists referred to as ‘punctuated equilibrium’. Today, digital information is creating an environment of constant change. This has led to such descriptive phrases as ‘punctuated chaos’, ‘rapids of change’, and ‘permanent white water’. In this new environment leadership and management approaches of the past are under question (cited by Scherer 2003:1). Savoie reflecting on the pace of change in the health industry, says:

People used to have time to think about change but it is happening at such a pace today. You need a chance to accomplish a change and get used to it then move on; we get exhausted now from changes happening in the middle of other changes. At some point you need to complete a cycle (cited in 2005:14).

To explain what this change process means to organizations, a wealth of new concepts have emerged such as dynamic complexity, the science of complexity, complexity adaptation, and upheavals at the edge of chaos (Senge 1990) (Waldrop 1992). Senge and Stacey talk about a new science, a study of complex living systems, emerging from the ‘new sciences’ of the twentieth century such as quantum physics, ecology, complexity mathematics and chaos theory. Such nonlinear thinking assumes that human groups, processes and activities are self-organizing like ecological niches (Senge 1999) (Stacey, Griffin et al. 2000). The new science has resulted in human organizational systems like the health industry being studied in an entirely new way with greater appreciation of the interconnectedness of human beings within such complex structures.

Organization ecology, another term emerging from evolutionary biology, tries to capture the full range and diversity of an organization through its birth, growth, transformation, and mortality. Organization ecology provides insights into how industries develop and change over time. Barnett states that each organization's environment is made up of other organizations and as such, how organizations affect each other is significant (Barnett, Carroll et al. 2002) (Witteloostuijn 2000). Writers indicate that, today, a successful organization needs to be responsive, adaptable and flexible, it needs to turn the organization inside out (making it porous to customer, distributors and suppliers) and upside down (encouraging participation, information-sharing, and wholly new roles for supervisors/managers), and it needs to move towards a more fluid, organic structure or boundary-less and seamless organization (Johnson 1993) (Wheatley 1994). While health reform may have restructured the health industry the concepts of responsiveness, adaptability and flexibility in the provision of an integrated or seamless service delivery to health consumers still remains an idealized concept.

The simplest definition of change management is provided by Nichols who refers to internal change as "the making of changes in a planned and managed or systematic fashion" and dealing with external change as "response to changes over which the organization exercises little or no control" (Nichols 2004:1). Nichols sees the approach to change being reflected in the organization's management mindset and its emphasis on adaptation. He identifies the primary skills needed for managing change as: political skills, analytical skills, people skills, and system skills (Nichols 2004:6 & 7). Whether health-care managers in British Columbia possess such skills will be examined later in chapter seven.

As for the health industry's ability to respond to change, Champagne in her paper to the Commission on Health Care in Canada noted:

We might intuitively expect health organizations to have even more difficulty with change, but the literature is somewhat equivocal in this regard. As public bodies, health organizations have decision-making processes that are more laborious, convoluted, turbulent and conflictual. Their nature as professional organizations further hardens their aspects of the decision-making process. Although logically this might point to more failure, it is apparently not so if the decision-making processes used are customized and suited to their settings (Champagne 2002:vi).

Yet, in the final analysis, Champagne says:

...the fact remains that health organizations tend more frequently to exhibit characteristics that are non-conducive to change than their private-sector counterparts (Champagne 2002:4).

Her assessment of Canada's two reform methods of primary care and regionalization was that both were major decision and implementation failures (Champagne 2002:vi). As she saw it, in order to enhance the ability to manage change in Canada's health organizations the following features would need to be present: a culture based on experimentation, change, risk and accountability; independent thinking and initiative; attention to incentive mechanisms; a climate of trust; collective and individual learning; the adoption of flexible, highly integrated and complex structures; a rethinking of the managerial role and the use of scientific knowledge in decision-making (Champagne 2002:viii & ix). It is the limitation and/or absence of such features which may explain why health reform has not worked. For all the disruption caused by organizational change in the health industry, the question remains as to whether any single change model might have worked more effectively than another.

Research data does not seem to support a single effective model which presents questions with regard to the single regionalization model adopted in British Columbia. Champagne studied a number of change models with regard to health organizations in Canada and came to the following conclusion:

Perspectives on the determinants of failure of change are thus many and varied. Yet we have very little scientific evidence of their relative effectiveness. The rational and strategic management models have high face validity, but we do not really know how effective they actually are. The organizational development and individual learning (psychological) models have been more extensively researched and seem to rest on solid foundations. Yet evaluations report highly variable success rates, suggesting that the explanatory and prescriptive power of these models is limited. The structural, political and institutional models seem to provide some strong explanation for failed implementation, but the lessons to be drawn in terms of action and change management are not so strong. Lastly, the organizational learning and complexity models seem promising and theoretically well grounded, but only in the rarest cases have they been used to guide the implementation of organizational change (Champagne 2002:vii & viii)

If this is the case, then is there any evidence to support changing organizations on such a massive scale? Would the success rate of other industries provide some measure of outcome for the health industry? The success record for industry in general is not promising. Both Kotter and Zidle state that it is estimated that sixty-five to seventy percent of organizational

change fails because change is viewed as an event and not the ongoing mental, emotional and physical process of personal transition (Kotter 1996:17) (Zidle 1998:1). Other writers found that managers tend to think and act as if everyone else in the organization needs to change but them. Organizations failed to set up retraining policies and did not foresee the human resource problems when downsizing affected job security. Personnel were expected to do more with less, but there was no plan on how to work with less staff. In addition, communication links were inadequate for the new organizational structure. Other researchers argued that bringing about change on a large scale is complex and requires a thorough understanding of organizational culture (Fullan 2001) (Sauser and Sauser 2002) (Schein 1997:24; Choy n.d.). A compounding problem for British Columbia is that before issues could be addressed with one reform (i.e regionalization) process another was introduced. Even with Champagne's assessment of health reform noted above, the difficulty in measuring the success rate of such change in British Columbia, or anywhere else in Canada, is that such change is ongoing.

Other researchers have explored whether there is any limitation with regard to changing large organizations. Witteloostuijn states that only change that negatively affects an organization's core features of accountability, reliability and reproduceability increase the mortality rate of the organization, whereas peripheral changes in organizational features may even enhance organizational performance (Witteloostuijn 2000). The reform process in British Columbia was not peripheral and there are already concerns that the management ranks may have been cut too severely. The concern with too severe a change was noted by Bacal who suggests that organizations can slip into "downcycles" which can occur one to two years after a reorganization. This may be characterized by a gradual long-term process where the organization becomes progressively more depressed, insular, protective and confused (Bacal 2002:2). Research carried out by Noer found that five years after the symptoms of fear, insecurity, uncertainty, frustration, anger, sadness, depression and betrayal had been clinically observed in individuals in downsized organizations, most of the symptoms were still present; some were more pronounced and deep-rooted than ever (cited by Dupuis, Boucher et al. 1996).

Change also presents an increased need for information. If health organizations are regarded as a living system, as is the premise of the new sciences, then information becomes essential to its survival, particularly at a time of massive change. Flower notes that such information needs to be open and abundant and immediately available to people (Flower 1993). However, the inability to exploit all the internal and external information resources available to organizations –human, electronic and paper-based- can be costly. The costs of inefficiencies that result from intellectual rework, substandard performance and the inability



to find knowledge resources is in the billions of dollars. Experts estimate that twenty to thirty percent of the annual trillion-dollar cost of the United States health care system is tied up in paperwork. Although health care is a high-tech field, Gates argues that the technology has been mainly directed at stand-alone diagnostic systems, not at information flow (Gates 1999). The inadequacy of the information systems in British Columbia was previously mentioned in chapter two. These information inadequacies and lack of computer integration create information barriers and diminish the effectiveness of any change process. While McDonald's may be able to track every hamburger it sells, or a Coke machine in Tokyo can phone home for more supply, and shipping companies can provide Internet tracking of their parcels, the health industry is still unable to instantly track and detect trends with regard to patients, staff, workload, supplies, costs or other essentials in their everyday services. Huge government databases exist but computer friendly software programs to quickly access and analyze such data are still out of reach.

The current need for greater integrated information systems in organizations, has also heightened the profile of knowledge in all industries and the health industry is no exception. Stacey sees organizational knowledge as "a spiral process starting from the individual level and moving up through expanding communities of interaction, that crosses sectional, departmental and organizational boundaries". He argues that the role of the organization is to provide the proper context to facilitate group activities, as well as create and accumulate knowledge at the individual level (Stacey 2001). Thus, the knowledge assets of an organization are being created in the pattern of relationships between members and, according to Nonaka, are destroyed when those relational patterns are destroyed. He sees that organizational policies that disrupt these relational patterns between people, can seriously damage its knowledge-generating capacity (Nonaka 1995). The effect of health reform on the knowledge base of the industry is rarely mentioned, yet this could be a major drawback of reform as organizational relationships have not only been interrupted, in many instances they have been destroyed.

In summary, organizational change has become a reality in society today. To describe this change process and to capture the speed of such change, new terminology has been created. The health industry, a late player to such change, may be ill-prepared to adapt quickly to change because of its traditional structure. Studies have also shown that no single change model seems to work in changing health organizations which may explain the problems encountered with health reform outcomes. If the success rate for corporate change is a guide, then the success of health reform is not encouraging and, the long-term effects on the industry have yet to be determined. If knowledge assets are being damaged when relational patterns

are destroyed, then health planners need to be more aware of the latest scientific thinking on organizational change and what the new organizational model may mean to further changes being introduced to the industry.

### **3.2.2 The new organizational model**

The health industry in its present structure, regardless of what changes have been introduced, still remains complex and cumbersome as it is still not able to adapt quickly to change. At best, health reform has attached new technologies to an old culture even with the introduction of regionalization. A fully redesigned model, has yet to emerge. In looking at the features of old and new organizational models, Paterson provides the following description: in the old model frontline transactions with the customer resulted in both frontline staff and customers (i.e. healthcare clients) being miserable because of limited choice; the new model provides full participation by both staff and customer with the customer setting the product or service agenda. A sensitive customer interface is created through individual customer profiles, preferences, and accrued activity and trust are maintained in real time (Paterson 2003:3). To create this new model, in which decision-making power is pushed to the frontlines in the health industry, a major change in organizational culture would need to occur. The thinking behind the new organizational model, according to Hock, comes from an “understanding of autocatalytic, nonlinear, complex, adaptive systems, referred to as ‘complexity’ theory. ‘Chaordic’, an invented term from chaos and order, describes “organizations which can harmoniously blend both chaos and order” (Hock 2000:21).

To exist in this new culture, Hock argues that an organization needs to have a clear understanding of its *purpose* and *principles*. Purpose in this case is more than an objective or mission statement, it is a “clear, socially responsible reason for existing”(cited in Wood 2005:5). Principles consist of a fundamental belief about how the organization intends to conduct itself in pursuit of its purpose and are “the values and ethics-based rules and guidelines by which the organization will operate”(cited in Wood 2005:5). To the degree that the purpose and principles are shared in common, people in an organization will be able to behave in accordance with them without the need of command and control structures of the old organizational model (cited in Hoffman n.d.:1). Leadership in this new organizational model, according to Hock, is leadership by everyone with leaders needing to articulate a sense of community and a vision of the future. In Hock’s view:

It is true leadership –leadership by everyone – chaordic leadership, in, up, around, and down that this world so badly needs, and it is industrial age, dominated management that it so sadly gets (Hock 2000:22 & 23)

While Chaordic leadership thinking may not yet be evident in the current health organizational culture, Hock described what it might look like in his presentation at the 2005 California Medical Association conference stating:

Only with the evolution of a self-organizing, Chaordic, transcendent organization in which all parties have an appropriate voice in governance – in which the whole does not control the parts and the parts do not control the whole – in which competition and cooperation are harmoniously blended – in which public and private entities are seamlessly related – can order emerge and a universal, effective, low-cost system of health evolve (2001:1).

The first step towards such a new model, as recommended by Hock, is to change the organizational culture, not rearrange the parts of the old model which has been happening with most health reform. It is only after the culture has been restructured that the focus can be effectively made on the needs of the health care customer. If Hock's view and the new organizational model for the future is accepted, then it would favour greater choice for the health customer. Quality service delivery would then be critical to such customer choice. Such cultural restructuring requires a very different leadership style to be successful. As the health industry continues to evolve, with more public and private customer choice, hopefully, a change in organizational culture will also occur. Yet, the amount of change which has occurred to date has already increased the complexity of a complex industry and there remains a concern over how much more change the industry can endure.

### **3.2.3 Changing a complex organization**

As shown in chapter two, health industry complexity has increased in the past thirty-five years with the introduction of new procedures, technologies, expanding varieties of health workers, increased patient demands, political policy changes, and diminishing resources. Health reform further exacerbated this complexity with changes in governance structures, amalgamation and closure of health services and programs, and increased management restructuring. This segment explores how this increased complexity is effecting organizations.

The previously held Newtonian approach to understanding human organizations considered them to be a machine. Newtonian scientists believed in certainty and that the outcome of natural processes could be predicted with pinpoint accuracy (Johnson 1997:2). This management view holds that once the individual parts of the machine were known the whole

system could be managed. Recently, Newtonian theory has been superseded by complexity theory which looks at human organizations more as a living system. For example, Hutchens asks such questions as:

What if an organization were less like a machine and more like a living system?...What if it can learn and adapt...not unlike a forest, or a school of fish, or even the human brain?  
(Hutchens n.d.:2)

From this perspective, a health organization could be regarded as a living 'open' system engaging with its environment and continuing to grow and evolve, and deliberately keeping itself off balance in order to survive. If this notion is valid, health reform might be considered a healthy state as it forces the industry to evolve and grow. Hutchens further states that change should be a "multiple actions approach," that is, experimenting with several different approaches, which over time can be observed to see what works and in what context (Hutchens n.d.:8). Perhaps the various reform approaches in the health industry have allowed it to see what works best. However, such change is supposed to come from within a living system, not be imposed from outside. Hutchens clearly supports such internal evolution insisting that the change agent must "Trust the emergent property of systems and the law of natural selection to 'choose' the right way to go". Whether or not the health industry could have evolved without change being imposed from outside is a topic left for another researcher.

Hutchens, obviously aware that change is often imposed, goes on to state that it is important not to assume that the created structure is the system. In assessing the newly formed organization it is important to differentiate between the "legitimate system" and the 'shadow system". The legitimate organization is the policies, systems and organization charts, while the shadow system is the unofficial relationships and informal processes which facilitate production. It is in this shadow system where the greatest interconnectivity and relationships flourish (Hutchens:8 & 9). This shadowy part of the organization is where patterns, direction, feelings and the internal rhythm of what's happening occurs and it is here where the organizational culture thrives. Making sense of the organizational culture requires attention to the communicative interactions between people as they carry out their everyday activities, because it is in these interactions or 'living present' that the future of the organization is being perpetually constructed. An organization becomes what it is, because of the system its managers design, the actions people in organizations choose to carry out, how they deal with risk, and how they struggle to survive (Wheatley 1994; Stacey, Griffin et al. 2000). According to Douglas, organizational culture is not a static 'thing' but something which keeps changing. She defines it as follows:

Organizational culture is the emergent result of the continuing negotiations about values, meaning and proprieties between the members of that organization and with its environment (cited by Seel n.d.:3).

In health reform, these organizational patterns, rhythm and culture were disturbed. The question remains as to how deeply this organizational culture has been damaged in the process and how long it will take for new connections and relationships to be molded to create a new culture.

Dooley describes organizational complexity by identifying such features as the number of different professional specializations that exist within an organization; the technological core such as procedures, methods and processes; the ability or inability for organizational entities to “connect”; the amount of variety, or differentiation, in the organization’s core processes and technologies; and the extent that its constituent elements are interdependent upon one another (Dooley 2002:2-5). Since many of these features can be found in the health industry, the health industry could be described as a modern complex organization. However, the linkage Dooley makes between environmental complexity and learning in the following statement is the point of importance to this study.

When the environmental complexity is very high, organizational members are constantly barraged with demands for their attention, solving existing problems and scanning for new ones. This taxes the information processing capacity of the organization, and individuals tend to shut down, saving their energy for emergency needs that may arise. The opportunity for organizational learning is maximized when environmental complexity is moderate, pushing organizational members to learn new skills and solve problems, within the limitations of their ability to process information (Dooley 2002:11).

In dealing with change in the health industry this is a key point and focuses attention on the learning capabilities of its members, and particularly for this study, on health-care managers. Health reform, in escalating organizational complexity, may have created a negative climate for learning for health-care managers. This learning climate, as viewed by health-care managers, will be examined more in chapter seven. What is understood from this material on complexity is that the health industry, already a complex organization, was made even more complex by health reform, disturbing fundamental organizational patterns, rhythm and culture and also the learning climate for its members. It is with this understanding of the effects of change on the health organization that the focus now turns to the managers.

### **3.3 How change affects managers**

As organizational change occurred in the health industry well after other industries, it is helpful for managerial leadership to note the comments of Peters on how leaders in other industries were affected by change. Peters says:

The management principles we have held dear are undergoing relentless attack – and succumbing. Most of the cause-and-effect relationships we have cherished have been found wanting (Peters 1987:390).

Peters further states that the new organizational environment challenged managerial leaders to seek the unconventional and to be willing to “deal with the task of simultaneously nurturing stability and instability”(Peters 1987:394 & 395). As the health industry moves towards the new organizational model managers will be facing similar challenges. It is these challenges which will now be examined.

This section will describe the role of the health-care manager, how health reform has changed this role, the similarities of the health-care manager’s role to managers in other industries and what new expectations all managers face in today’s organizations. The examples used in this section to portray the pre- and post-reform environment of health-care managers reflects the situation in one Canadian province and are used as an example with the understanding that variation exists even among the health authorities in British Columbia. The objective of this information is to understand the fundamental changes faced by health-care managers and the reason for the urgency in addressing their new learning needs.

#### **3.3.1 Definitions/description of the health-care manager’s role**

According to Webster’s dictionary, management is defined as “the act of managing, treating, directing, carrying on, or using for a purpose; administration; cautious handling or treatment; the body of directors or managers of any business, concern, or interest collectively”. The general definition for a manager is “one who manages; one who has the guidance or direction of anything; one who is directly at the head of an undertaking” (Webster 1985:578). Spirn and Benfer describe the manager’s job in terms of various “roles,” or organized sets of behaviours identified with a position (Spirn and Benfer 1982:35). Definitions for health-care managers are much harder to find. The National Occupational Classification (NOC) system of the Department of Human Resources and Skills Development Canada (HRSDC) has a number of definitions which refer to managers in both health and social services. Definitions for senior managers or head nurses and supervisors are similar:

Senior managers plan, organize, direct, control and evaluate, through middle managers, membership and other organizations or institutions that deliver health, education, social or community services. They formulate policies which establish the direction to be taken by these organizations, either alone or in conjunction with a board of directors (cited by Romilly 2005:10).

The problem with the above definition is that it is inadequate when it comes to the newly created health authorities and the regional responsibilities of health-care managers. Another definition of the Canadian Institute of Health Information (CIHI) for a health service executive provides a different description of the health manager's role:

A health service executive assumes a leadership role in a management position in the Canadian health system. The Executive's responsibilities/activities are: leads the part of the system for which he/she is responsible to ensure that the services within his/her area of responsibility is provided with the highest quality, with best use of available resources, in an environment that is conducive to good employee morale and that is synchronized with other parts of the health system (cited by Romilly 2005:12).

However, this definition is centered on one level of management with no reference to the many and diversified management positions in the rest of the industry. A more contemporary definition of the responsibilities of the Chief Executive Officer and first-level manager in the health industry can be found in a definition from the province of Quebec:

First level managers will act as facilitators for interdisciplinary teams. They will encourage initiatives and foster the emergence of projects aimed at improving practices, based on client needs. Professionals and managers will openly discuss desired results and the expected contribution of all participants. They will work together in a climate of cooperation, evaluating the results of interventions and needs for improvement. *and*

Heads of institutions will be increasingly called upon to meet real management challenges: defining an inspiring vision and communicating this to all members of the organization, offering motivating leadership, placing value on the contribution of each player, and ensuring that the organization contributes fully to the achievement of regional and national objectives. The great strength of management teams will be expressed, above all, through their capacity to create a climate of confidence and to instill in others the desire to succeed. Their main objectives will be to anticipate change, offer direction and mobilize the energy of all players around stimulating projects which are beneficial to the population, as well as to internal partners and to the whole of the health and social services system (cited by Romilly 2005:12).

The above definitions, while still focused on the senior levels of the industry, does provide a more current description of a health-care manager's role.

The problem with so many definitions of health-care managers is that they primarily focus on the chief executive officer or senior managers with little reference to any other management level. This drawback was also noted by Romilly as follows:

When you start to examine the positions below those two levels, defining the position and scope of work varies considerably across the country as does the way provincial health services are organized (Romilly 2005:1).

A better and simpler definition may be found in the definition of the Canadian College of Health Service Executives (CCHSE) which focuses on the health-care leader:

A health-care leader is an individual who creates vision and goals, and mobilizes and manages resources to produce a service, change or a product consistent with the vision and goals (cited in 2005:3).

The new reality is that the role of health-care manager created by health reform may be closer to that of a manager in general industry. Shortell describes this role as technical, political and visionary: technical in financial management, decision-theory applications, human relations, and information systems; political in knowing about community organizations and politics and inter-organizational relationships; and visionary in being able to survey the environment not only to anticipate new developments but to actively create, in a visionary way, new opportunities for the organization. Shortell also states:



In no other field are the implications of the administrator's roles of technical, political, and visionary more likely to be influenced by future developments than in the management of health care organizations (cited by Spirn and Benfer 1982:391).

From a general industry perspective, Shortell could foresee the health-care managers' role was subject to considerable change. Thus, finding a definition which adequately describes the newly reformed role of today's health-care managers has been difficult. For this reason, the simpler version provided by the CCHSE may be the most appropriate at this point in time. To expand on this definition, this section will examine the evolution of the health-care manager's role and how health reform has affected health management resources. In addition, the section will examine how reorganization has affected other industries creating new expectations for all managers.

### **3.3.2 The evolution of the health-care manager's role**

Over the past thirty-five years, the health-care manager's role has evolved in keeping with public policy changes within the health industry. As Canada moved from a private to a publicly funded health system in the 1960s, former managers in large hospitals (i.e. physicians, nurses, religious orders or retired military officers ) were replaced by a new generation of managers, mostly male with financial expertise, since policy makers regarded financial skills as imperative in running a publicly funded system. In the past forty years physicians became less involved with management but recently this trend has changed with an increase in management education opportunities for physicians (Romilly 2005:32). Nursing held firmly to having professional nurses as their senior managers, but even these managers had to increase their management knowledge to retain their positions.

During the 1970s as health services expanded, there was an increased demand for qualified managers, those with some management training. In response, provincial higher education institutions created health administration diploma programs and the Canadian Hospital Association (CHA) and the Canadian Nurses Association (CNA) created a number of correspondence programs for managers across Canada.<sup>1</sup> By the 1980s these correspondence programs were replaced by graduate, and postgraduate programs relocated to higher education institutions. According to Romilly, "formal training seems to have been the primary vehicle for developing health care leaders in Canada, along with executive programs" (Romilly 2005:27). By 2000, after years of health reform, the first questions were being asked about

---

1. Personal recollections as Executive Director of the CHA/CNA management distance education program.

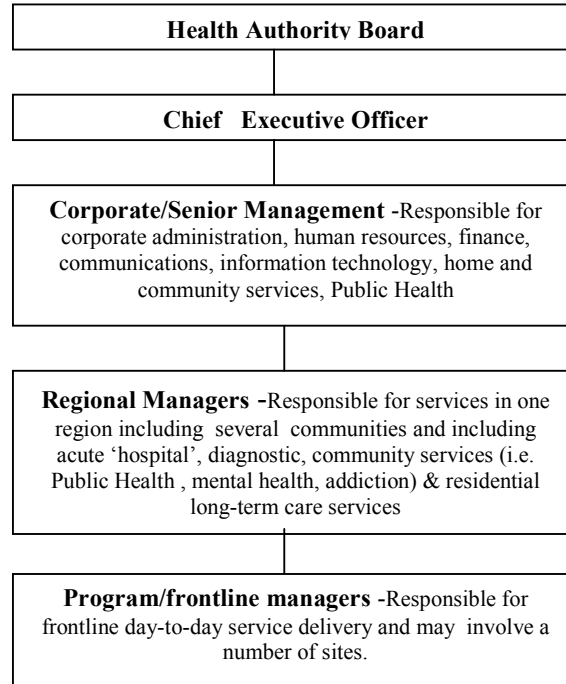
management education. In the Spring of 2005 a national meeting of key health organizations was held in Ottawa to reexamine the learning needs of managers (2005) (Romilly 2005).

Currently, leaders and managers in the health industry come from a variety of educational backgrounds. Rural and remote areas still promote competent clinical and/or technical individuals into management while large urban centers demand higher entrance qualifications (e.g. a master's degree). Familiar higher education degrees for managers today may include health service administration, business administration, and public administration (Deckard n.d.:8) but other qualifications are equally prevalent. In 2000, a survey of three hundred and thirty-six senior executives of the CCHSE found that eighty-seven percent of the respondents were male; eighty percent or more had attained a master's level designation or higher; seventy-six percent had attained their Certified Health Executive (CHE) designation and eighty-nine percent were forty-five years or older (Armstrong, Brunelle et al. 2000:2). While the CCHSE survey tended to be biased towards males, these findings may accurately show the lingering tendency in the industry to have more males in senior management and more females in lower management. While qualification expectations have risen to supposedly meet the increased complexities of their role, it is unclear if such education is actually addressing the changes which health reform have introduced. In chapter four, this study will show the current problems of health management education. Chapter six will present finding on the latest educational qualifications of health-care managers. Chapter seven will examine whether the educational objectives for health-care managers need to change because of health reform. The next section will show how recent organizational changes have affected the role of health-care managers.

### **3.3.3 Pre- and post-reform changes in British Columbia**

In the pre-reform period health-care managers were mostly responsible for one institution or one program/service. In the traditional bureaucratic structure of the health industry the chain-of-command was clear. In addition, clinical/technical professionals interested in management were gradually promoted up the bureaucratic ladder increasing their organizational knowledge as the years passed. Frontline managers were assured of support services in the areas of general management, finances, human resources and information technology. Additional managers in the system allowed for flexibility in addressing unexpected shifts in service demands and provided relief for education and other activities. The different regionalization models altered this traditional management structure, with the 2001 reform model of six regional health authorities introducing the greatest change. A few examples have been selected to illustrate the differences in the pre- and post-reform working environment of

managers. These examples are: decreased quantity of managers, increased workload, decreased support services, remodeled health bureaucratic structure, and hiring of senior managers without health industry experience. Figure 3.1 presents an illustration of the different management levels within the health authorities. It is understood that at the program level there would be a variety of different management positions in keeping with the diversity of health services provided.



**Figure 3.1: Health Authority Management Levels**

As noted above, the pre-reform bureaucratic model allowed for additional managers in the system for greater flexibility. In the post-reform environment the overall quantity of managers has been reduced, particularly at the top levels of the organization, with increased responsibilities being downloaded to remaining managers. This shortage in the number of managers in the health industry was noted in the CCHSE report to the Romanow Commission:

.....opportunities to develop succession planning for senior levels have been reduced with the elimination of many middle management levels and little time to coach and mentor younger leaders. At two recent conferences in BC [British Columbia] the Deputy Minister of Health stated that the health system might be under-managed and they might have cut too many positions (cited in Romilly 2005:32)

In another report the CCHSE reported that not only is the current health system under-managed due to cuts to middle and senior management but:

....the concerns of senior health service executives are similar to many of their professional colleagues: fewer people doing more work, more demands and fewer resources, reduced morale, lack of support, and lack of value of their contributions. These conditions have resulted in fewer incentives for younger professionals to aspire to senior management levels (2001:16).

Luthans and Sommer found that where change focused exclusively on cost and/or efficiency and effectiveness, the organization often did not calculate the human resource effects and going too far, produced what some called 'corporate anorexia'. Organizations had ignored their core competencies and cut personnel so much that they were starving for people possessing critical managerial and professional skills (Luthans and Sommer 1999:65), the very concerns of the CCHSE with regard to health reform. The magnitude of this change was captured in a 2000 CCHSE survey in which respondents stated that senior management numbers had been reduced by fifty percent. Respondents also noted that senior management roles had become much broader and more complex with a significant increase in the range of responsibilities crossing programs, sites and systems. Only thirty-one percent of respondents worked for organizations located on one geographic site. The remainder led organizations distributed across two geographic locations or more. Thirty-nine percent indicated that their organization operated from four or more locations. Seventy-five percent of respondents were responsible for both community-based and hospital-based health programs (Armstrong, Brunelle et al. 2000:3).

Romilly indicates that this flattening of senior management structures has led to more work and responsibility for the Chief Executive Officer (Romilly 2005:33) as well as to other management levels. Lower-level managers not only have increased responsibilities, they are also dealing with different working locations, an increased number of human resource issues, and several collective bargaining agreements. A recent study found that with health reform many health service executives now manage budgets and human resources exceeding those of towns and cities in Canada (2001:3), and this picture is proportionately similar for other management ranks. This layering of management ranks and a consequent curtailment of career opportunities for managers was also noted by Truss and O'Callaghan following health reform in Britain (Truss and O'Callaghan n.d.:1). The decreased numbers of managers and increased workloads have created more difficult, complicated and diverse job demands for many health-care managers.

Is it possible this trend of cutting the number of managers may yet be reversed? General industry has discovered that after years of cutbacks to their management ranks they are now realizing corporate downsizing was too severe. Farquhar notes a shift in corporate thinking with a new appreciation of middle managers. But this middle management role has changed from pre-downsizing days. Middle managers are now seen as the hub of implementing change initiatives, pursuing new strategic directives, and bringing fresh insight and experience to problems. These new middle managers are focused on leadership, building relationships and seeking new ways of addressing problems. Their roles now involve focusing on strategy implementation, acting as a change agent, brokering opportunities for innovation and collaboration, ensuring communications and providing expertise and projects management (Farquhar 1998:2). As noted above, there are beginning concerns in the health industry that downsizing of the management ranks may have been too severe, but to date there has been no action to readdress this shortfall. So, health-care managers are coping with a potentially under-managed organization that continues to change with an increasing awareness of the impact this may be having on patient care and their own health.

Another post-reform change for frontline health-care managers was the elimination of support services on which they had relied for years. With the introduction of a new management level called 'regional managers', the former management support service network was eliminated as it was these managers who were selected for this new role. This loss meant that frontline managers were now personally responsible for these activities (i.e. general administration, finance, human resources and information technology).<sup>2</sup> They had to learn new skills at a time when the workload for these frontline managers had also increased. An example of this problem was noted in a study of nurse managers in the Canadian restructured health settings which found:

....a lack of necessary information, resources and support to perform their role effectively put nurse managers at risk for developing emotional exhaustion, at the heart of burnout (Romilly 2005:34).

For many frontline health-care managers, therefore, reform has meant increased responsibilities and workload, increased learning demands, along with decreased numbers of managers and support services.

The restructured bureaucratic model also introduced other problems. Prior to health reform each health facility and/or community program existed within a traditional bureaucratic

---

2. Personal recollections as Administrative Consultant with the British Columbia Ministry of Health.

structure with the chain of command operating from top to bottom. The post-reform, neo-bureaucratized structure, has left a streamlined executive and senior management level with lower management structure relatively unchanged. For example, health clinical professionals may have experienced a slight shift in their client population and/or reporting structure, but their operational activities of caring for patients continued much as before. Admittedly the health regions are larger, but much of the traditional structure remains with top- to-bottom authority and bottom-to-top reporting. While a partially flattened structure would appear to have streamlined the management process, frontline managers discover they now have to report through a new regional management layer to communicate operational issues to corporate/senior managers. For them, this has increased their communication problems and reduced their input into overall management decision-making.

The bureaucratic structure which traditionally existed in the health industry was designed to maintain command and reinforce authority. It provided for a formal system of communications, and created an operational system in providing health care to large numbers of clients. Sullivan and Decker argue that the bureaucracy's strength lay in its capacity to manage routine and predictable activities in a stable environment with its well-defined chain of command and rules (Sullivan and Decker 1988:29 & 39). For this reason, health organizations were ill-equipped to handle rapid and continuous environmental change which has become the new reality. The need for reform was essential, but the reform process remains incomplete. It has not penetrated the lower levels of the organization to restructure management roles, to create greater diversity and autonomy, and to stimulate innovation. It is true that health reform has integrated and/or amalgamated health facilities and programs but it has not changed the ability of the industry to respond quickly to shifting service demands. In order to respond more quickly the reform process would need to penetrate deeper into the system. The industry's difficulty in responding to emerging issues is evident in ongoing reports of service issues (e.g. emergency department backups, diagnostic and surgery waitlists etc.). For health-care managers, after three rounds of reform, they now find themselves in a neo-bureaucratic organizational model with a flattened upper management structure working in tandem with a traditional lower management structure. The unanswered question is whether there is sufficient political will to expand the reform process to encompass the entire industry and allow for greater innovation and independence. But this division in the management structure has another facet.

Prior to reform, most senior managers were health professionals/technicians who were promoted from within the organization and were familiar with the operational details of service delivery. Post- reform, many corporate/senior managers are selected from other areas

(e.g. business, human resources, engineering, education, etc.), with no health industry experience. The concept that anyone with management experience can assume a management position in any other industry has been fostered in recent years and incorporated into social programs with the introduction of a corporate management structure. The idea might be acceptable if financial and corporate decision-making were the primary activity of health-care managers. However, this is not the case in the health industry where organizational culture experience and the understanding of service delivery complexities are essential in decision-making. It is also difficult to communicate the details of these items in an orientation program, no matter how well designed.

On a positive note, diversity of management thinking can be a benefit to an organization. Goodreau, a Chief Executive Officer of one of the health authorities in British Columbia, coming from general industry sees the benefit of this move as:

What was helpful was that health care was going through significant change with the creation of health authorities and government financial restraints so that it created an environment where someone with a different background was welcome. The mix of industry insiders and outsiders helped to create an environment and diversity where different perspectives were welcome (cited in 2005:12)..

The reason given for this change was that the new health environment, particularly at the senior levels, needed individuals with more corporate/business expertise to match the new corporate structure. Timmreck supports such a view by saying:

The tradition that “if you are a good tech, then you will be a good department head” does not hold up always in an administrative environment of tight budgets, downsizing, prospective payments, and managed care, all of which demand high efficiency and trained managers(Timmreck 2000:2).

While such diversity may be positive, the arrival of senior managers with no health industry experience created new issues for other health-care managers. Since these new corporate/senior managers were not required to take an extensive orientation or internship program to familiarize themselves with the industry, frontline managers began to encounter problems communicating the intricacies of operational issues to these new managers. Conversely, these senior managers argued that managers with clinical/technical expertise were unable to appreciate the corporate perspective when change needed to be implemented. This communication gap continues as few executives see a need to blend the two backgrounds.

In summary, health reform has restructured the traditional bureaucratic model by flattening the upper while leaving the lower management structure relatively untouched. This change involved the reduction of the overall number of senior management positions. In the new structure, frontline managers find themselves reporting through a new layer of regional managers to upper management, and having increased communication problems dealing with senior managers unfamiliar with the complexities of the health industry. The role of the health-care manager, at all levels, no longer resembles that of a decade ago and, to date, there has been little research on what these changes mean to service delivery. On the surface, reform has created an environment where experienced managers, facing increased workloads and new responsibilities, appear to be struggling to meet day-to-day operational issues and new managers seem to be left with little support or guidance. Whether new technologies can improve this situation for managers will be touched upon in chapter eight. As the restructuring process has evolved differently within each health authority, the effects on managers may tend to vary across the province. Some managers may be just awakening to these new realities. However, when such changes are multiplied across the country, it is not surprising that there is a health management resources crisis.

### **3.3.4 Health management resource crisis**

In Canada, a crisis in health human resources emerged in the late 1990s with shortages, an under-supply of candidates interested in the health field, and reduced access to higher education (Fooks and Lewis 2002:10). Initially, the concerns were over shortages of clinical professionals (i.e. physicians and nurses) but in time the shortages of health-care managers also became an issue. The shortage of managers arose as the baby-boomer generation started retiring from the industry taking with them a huge portion of corporate knowledge.

The leadership crisis has been further exacerbated by increased difficulties in recruiting and retaining leaders due to health reform uncertainties, increased workloads, poor work to home-life balance and low morale within management ranks. Since 2004, this leadership issue has gained prominence both nationally and provincially. The Executive Director of the CCHSE, stated in his Summer 2004 editorial that this “crisis in health industry leadership is not looming but has already arrived.” He identified the following interrelated symptoms and dimensions which were contributing to the crisis:

- Many experienced health leaders are nearing or past the usual age of retirement;
- The recruitment of senior leaders has become difficult with positions remaining vacant for long periods;



- There is an extra-ordinary rapid turnover in the senior leadership ranks of the healthcare system;
- Uncertainty and excessive work demands make leadership roles unpopular;
- Opportunities for leadership training and mentoring are few and far between in Canada;
- There is almost no Canadian research on healthcare management and leadership as an occupation;
- Leadership is not generally recognized or celebrated in Canada; and
- There is no requirement or expectation for healthcare leaders to pursue continuing professional development and/or be registered or licensed (Hylton 2004:3).

While this CCHSE view was restricted mainly to senior managers, the same could be said of other management levels. The aging of health professionals is a growing concern in Canada and the near-retirement rate (NRR- the percentage of workers who are within ten years of the median retirement age) as recorded by Statistics Canada is watched regularly. Stats Canada recorded a 29.9 percent NRR for all management in 2002 as compared to 15.5 percent in 1987 and noted that the median retirement age in health care is 61.8. Romilly points out:

They [Statistics Canada] also say that managerial occupations in general will be hardest hit by baby-boomer retirement and that health care is particularly vulnerable because this sector has a higher proportion of managers and professionals with requirements for greater experience and higher levels of education, so both tend to be among the oldest employees. Managers and professionals in education and health care are about five years older than those in other industries with high educational requirements (Romilly 2005:20)

Obtaining data on health-care managers is a problem which Romilly describes as follows:

While there are no national research studies about shortages there are reports of shortages at various levels.... Part of the problem in identifying shortages relates to a lack of common standards defining adequate staffing levels...Data is incomplete and inconsistent and there is no commitment to a common standard or common data gathering system (Romilly 2005:2 & 4).

This difficulty in determining the number of health-care managers in the industry was also noted in Britain (Romilly 2005:11). The lack of data on health-care managers has contributed to health human resource planning problems as noted by Fooks et al., who state:

...there is no sign of inter-provincial cooperation on health human resource planning and ....there is limited evidence that the [health] system understands the need to link health policy decisions to human resource issues (cited by Romilly 2005:18)

To address this mounting concern, in 2005, through the CCHSE organization in partnership with the Academy of Canadian Executive Nurses, Canadian Society of Physician Executives and Human Resources Skills Development Canada, efforts are underway to develop a comprehensive analysis of executive/management needs. This effort speaks not only to the urgency of more research on health-care managers but also to the timeliness of this study. While learning may not be the entire reason for the human resource shortage, it is a very important aspect of this new reality. The question is whether the health management resource crisis is unusual in an industry following a period of restructuring or are there similarities with other industries? This will be the focus of the next section.

### **3.3.5 Comparison with other industries**

Romilly, in her interviews with senior health-care managers in Canada, found that recruitment and retention of qualified leaders was being adversely affected by the newly reformed working environment. She noted that:

...the quality of applicants for senior positions had decreased and expectations were rising; jobs were larger in scope. The span of control, in addition to being larger, is more demanding and the job is more difficult, more complicated and diverse. People are leaving the system because the pressure is too high and time commitments are very heavy (Romilly 2005:23).

Other senior managers expressed concerns that the 'pipeline was drying up' and the industry would soon not have enough of the right people to manage the system (Romilly 2005:23).

The reluctance of individuals to enter leadership positions in the health industry is indicative of what occurred in other industries after downsizing and reorganization. Appelbaum's short list of downsizing outcomes of overload, burnout, inefficiency, conflict and low morale, and Stacey's view that managers were now being asked to be both 'in control' and 'not in control' at the same time, could easily be applied to the post-reform health-care managers (Appelbaum, Lavigne-Schmidt et al. 1999). The new organizational

model expects managers to accept a team approach to leadership by delegating both control and decision-making to others, a major change for many managers familiar with a traditional management model. Stacey also saw a disjunction occurring between what managers believe they ought to be doing and what they repeatedly find themselves doing (Stacey, Griffin et al. 2000). Lewin found that many of the manager's background assumptions and time-honoured models were inadequate to help understand what was going on, let alone how to deal with it. Managers found themselves struggling with something more organic and nonlinear where limited control and a restricted ability were the order of the day (Lewin 2003:1). Other writers in their review of general industry noted the increased quantity of information managers were expected to handle in today's organizations, the work overload on middle management and the negative impact of stress on leadership behavior (Sauer 2000) (Mineghino 2001) (Moormann 2002). Fullan found that organizational change brought about too many disconnected, episodic, piecemeal, superficially adorned projects, and unwanted, uncoordinated policies and innovations which were dropped on managers in the form of blueprinted top-down strategies or reengineering or relentless innovativeness (Fullan 2001). For the health-care manager, these post-downsizing features have been compounded by the reality that they must cope with rounds of restructuring while maintaining a twenty-four hour, seven day a week health service to ill clients, a situation not present in most industries. In addition, as health-care managers kept losing and reapplying for reduced numbers of management positions, their trust in the health industry diminished.

This erosion of trust was noted in a CCHSE statement which said:

...not only has the culture of caring, the very lifeblood of health care services have been ebbing away in the face of poor professional practice environments at all levels, perpetual downsizing and restructuring has created a loss of organizational loyalty (2001:iii).

Lewin confirms that trust was one of the major casualties in the rush to downsize in the name of reengineering. He quotes a corporate executive as saying, "In a living company, the essence of the underlying contract is mutual trust. Before they will give more, people need to know that the community is interested in them as individuals." In support of this view, Lewin states that "it is common sense that if people are treated as machines, not as people, they are unlikely to give loyalty and trust" (Lewin 2003:2). One example of this damage to trust in the health industry presents itself in the area of professional development. While managers may recognize they need further training, they are unsure of their organization's support for such studies or whether such effort will have any bearing on their future career. Similar findings were made by Truss and O'Callaghan on the post-reform National Health Service managers

in Britain. The NHS managers indicated there was “a lack of consistent organizational support for their career development” (Truss and O’Callaghan n.d.:6). But trust also has other dimensions.

If autonomous units are to exist, which might be a future consideration for health frontline management, Peters argues that integrity is essential. It means trusting frontline managers and employees to do all the quality control, after providing them with the tools and training required to execute such actions. Senge states that when people undertake initiatives that will require personal as well as systemic change, trust is essential. If people feel that their leaders can be trusted to support new values and actions, they will be more willing to commit time and effort and to take risks (Englund; Peters 1987; Senge 1999). The damage to trust has extensive ramifications for the health industry. Unless action is taken the CCHSE foresees a leadership problem in the making:

The increase in workload and stress associated with continual fiscal pressures and change has had a negative impact on the ability of leadership to respond. Opportunities to develop succession planning for senior levels have been reduced, particularly with the elimination of many middle-management levels, and there is little time to coach and mentor new leaders. The under-management of the system is a very real concern (2001:16).

Studies of health reform on managers in other countries have shown similar findings. In 1993, a group of researchers in Britain undertook a comprehensive survey of managers throughout the National Health Service (NHS) (including managers who had left the service) to examine “the extent to which a flexible and imaginative care culture in the NHS could lead to a more cost-effective use and deployment of managers, greater satisfaction and motivation for individual’s and better recruitment and retention of talented staff in the NHS”. This study found that changes occurring within the health industry (e.g. organizational restructuring, downsizing, privatization of services) were affecting the workloads, job satisfaction, career paths and personal lives of health-care managers. Bradshaw in 2002 noted that after two decades of change, managers were “reeling from target fatigue arising from the volume and pace of the current reforms”(cited by Jasper 2002:65). Based on this study, members of the Australian College of Health Service Executives (ACHSE) and members of the New Zealand Institute of Health Management (NZIHM) conducted a similar study. This study found that health-care managers in Australia and New Zealand felt under pressure due to resource constraints; the need to do more with less within shorter deadlines; macro and micro organizational restructuring resulting in job insecurity and uncertainty about the future. Other findings included personal health problems were occurring as a result of increased stress,

uncertainty and job-related pressures (e.g. lack of sleep, weight problems, depression and lack of hope etc.) and increased work demands had an adverse effect on the personal lives of some managers. The most frequent administrative problems mentioned by respondents were associated with change and uncertainty, reduced financial resources and control, and human resource management including changing cultures from public to private systems, dismissals, poor leadership and organizational politics (Harris, Maddern et al. 1998:4).

As all managers, including health-care managers, adapt to their changed working environments, they realize that their past learning may not see them through their careers and lifelong employment with one organization may not be realistic. Writers have been generous with their advice to managers in all industries under similar circumstances. Hooijberg, Waldrop, Ball, Sverlinger and Weiss advise managers to: increase their career options in the face of an ill-defined future; learn to accept complexity and uncertainty; learn how to manage information; translate business strategy into knowledge strategy; clarify managerial responsibility for knowledge management; support stronger intra-organizational and interpersonal networks; stay on top of new developments in information/communication technologies; learn how to create complex models of interactional processes and networks in the face of increasing managerial responsibilities; and become a continuous learner (Hooijberg 1992) (Waldrop 1992) (Ball 1999) (Sverlinger 2000) (Weiss 2002).

In summary, managers in all industries have had similar reactions to organizational downsizing and reorganization with the biggest casualty being a loss of trust. The ongoing stress on health-care managers also has had a detrimental effect on attracting future leaders to the industry. This may be the most serious long-term side-effect of health reform. The challenge facing all managers in the health industry today is not simply doing more with less but understanding the need to do it differently. Managers face a need to redesign themselves in keeping with their new working environment. The key task is to identify the skills that health-care managers need to meet this new challenge and to determine how best to deliver such learning. Both tasks will be addressed in more detail in later chapters of this study. Continuing in this chapter will be a review of the new skills being demanded of all managers in today's changing organizations.

### **3.3.6 New expectations for all managers**

Writers describe the new breed of manager for today's industries as those who can hit the deck running, shed former views of control, be able to do everything faster with less resources, understand continuous change and adapt quickly to shifting organizational needs. These new managers need to create a culture of restlessness, welcome surprises, have great

flexibility, be capable of employing multiple strategies, and be able to deal with bad news head on. Such managers should also be able to define the organization's role to customers, allocate resources, be skilled at communications, seek information from many sources and be able to build relationships (Peters 1987; Wheatley 1994) (Harris, Maddern et al. 1998; Gates 1999; Stacey, Griffin et al. 2000; Sauser and Sauser 2002:5) Nonaka adds that the main job of managers is to orient the front line chaotic situation towards purposeful knowledge creation, to solve the contradictions between what top management hopes to create and what actually exists, and to become creators and converters of organization knowledge, process facilitators and agents of change (Nonaka 1995). According to Rudestam, managers are being forced into roles of 'virtual leaders', to master new competencies, solve new types of problems and to maximize opportunities for their organization (Rudestam and Schoenholtz-Read 2002). In the health industry, CCHSE says:

Managers of the future will have to have a broad range of sophisticated competencies including fiscal and human resource management, knowledge of technology, the ability to integrate many services along a broad continuum of care, as well as a thorough understanding of governance combined with political acumen.(2001:16))

Continuing with the living system concept, Webber in his interview with Senge noted that what is needed in management today are leaders who approach change as if they were growing something, rather than just "changing" something. Webber quotes Senge as follows:

Even on a large scale, nature doesn't change things mechanically. You don't just pull out the old and replace it with the new. Something new grows and it eventually supplants the old..... Thus, in organizations, if new behaviours are more effective than old behaviours, then the new behaviours win out (cited by Webber 1999:5).

Webber paraphrasing Senge says, "organizations need leaders who are able to develop internal networks and know how to get people talking to one another" (cited by Webber 1999:7).

In today's reformed environment many health-care managers might find these descriptions of the 'new manager' somewhat daunting, and would argue that until the issue of too much work and not enough time is addressed there is little possibility these new competencies will become a reality. This time constriction for health-care managers is not simply a matter of better time management. In the push to reform the industry little attention was given to reevaluating the workload of managers. Instead of getting rid of outdated processes or procedures, when the quantity of managers were reduced, their workload was simply

redistributed and added on to an already full workload of other managers. This resulted in many managers trying to handle double, if not triple, responsibilities with possibly out-dated processes, procedures and in many cases technology.

Given that health-care managers may find the new skill demands daunting, the question is what new skills or competencies would best fit their newly reformed environment? Gadekan points out that any job may be considered from two perspectives: tasks and competencies. Tasks are characteristic of the job itself and are considered the minimum or threshold requirements for effective performance, whereas, competencies describe what the person brings to the job and may include motives, traits, aptitudes, knowledge, or skills and/or what makes a superior performer (Gadeken 1997:1). Isouard defines management competency as “the specification and the application of management knowledge and skills within an industry to the standard of performance required given favourable environmental and psychological circumstances”(Isouard 2000:1), whereas Fine states that healthcare management competencies include:

.....skills, knowledge, attitudes, and aptitudes needed to perform a healthcare executive’s job. However, the definition of competencies is even broader, extending to include the entire array of attributes that enable individuals to practice effectively within the healthcare management field..... competencies are not a static threshold that an executive reaches once and is thereafter competent, instead, competencies are dynamic and follow the executive’s career trajectory changing as he or she matures or moves into different occupational settings(Fine 2002:2).

Similar to Fine, the Interior Health Authority in British Columbia defined competencies as “any knowledge, trait, motive, attitude, value or other personal characteristic that predict superior performance”(Interior Health Authority, 2003). Whereas, the Certified Health Executive (CHE) designation of the CCHSE, described their competencies as “the skills and knowledge that Canadian health service executives have identified as critical to providing efficient and effective delivery of health services”(MacKinnon, Chow et al. 2004:15). Briefly, competencies may be described as the benchmarks for managers, the signposts of their profession. But is there anything different in identifying competencies for the health industry?

According to Baker, the problem in identifying competencies for health-care managers is that concepts of leadership are constantly changing, “a validated set of competencies for a complex field like healthcare leadership is likely to be extensive” and “there are several

reasons why the development of healthcare competencies is likely to be a slow, deliberate process” as:

- Competency models have often been developed for technical fields where there is a high consensus on the necessary work tasks and the work processes needed for successful outcomes are well understood. Healthcare leadership is not that simple;
- Educational and experiential needs of healthcare leaders will vary depending on the stage of their development; *and*
- Health care is a complex field with the characteristics of complex adaptive systems, and not easily reduced to simple descriptions (cited by Romilly 2005:25).

In trying to understand the differences between public and private leadership competencies, Goodreau pointed out that “the competencies for each sector (i.e. private or public) were a matter of degree with some being more required in one than another”. She went on to say that “clearly in the private sector the ability to execute is up-front and drives the operation. In the public sector accountability and targets are less clear. Building relationships and partnerships are important in both”. In her view “the role of leaders regardless of where they are is to create a vision and then to translate that vision into reality by mobilizing resources – both human and capital – to create a service, a change, or a product in pursuit of an overarching vision and goal”(cited in 2005:11). Providing another perspective, Armstrong, Brunelle et al. see health care leadership competencies as:

.....a continuous problem-solving, interacting group model in which many skills are needed in dealing with a variety of professionals and non-professionals in achieving short-term and long-term service objectives in delivering health services. (Armstrong, Brunelle et al. 2000:8).

Champagne states that competent change management leaders in the health industry need to be able to blend a number of change models and should be:

...entrepreneurial, visionary, strategists, daring and ever-prepared for crisis and opportunity (strategic management model). They have to be forward-looking, and they must program and plan change with care and attention (rational model). They have to be charismatic, astute psychologists who can overcome the resistance of their troops (psychological model). They have to be human, participatory and empowering (organizational development model). They have to prefer flexible structures that can easily accommodate contingencies (structural contingency model). Lastly, they have to be skilled negotiators who can build winning coalitions (political model)(Champagne 2002:vii).



Similar leadership competencies were identified by other writers and in other studies. Scheffelin, Kovner and Por, in identifying important leadership competencies listed such skills as knowledge of business, financial, legal, labour relations, and personnel management issues; being fluent with information technology; having evidence-based management training; being able to create and use the right mix of social skills and electronic technologies for collaboration, learning and coordination of action (Scheffelin 1995) (Kovner 2002) (Por 2002). A 2003, survey of five hundred randomly selected CCHSE members, identified the five most important competencies as teambuilding, listening, flexibility in effectively managing change, verbal communications and commitment to the consumer. The Australian College of Health Service Executives listed the following competencies: leadership, strategic decision-making and planning, public relations and communications, financial acumen and accountability, working with teams, establishing effective workplace relationships, and managing emerging challenges (MacKinnon, Chow et al. 2004:18).

All of these lists had considerable similarities but in the end the lists of specific interest to this study were: professional competencies identified by CCHSE, the Interior Health Authority Emotional Intelligence Competency Profile; the United States Veterans Administration list; and the Banff School of Management Centre, Competency Matrix Model. The first three lists have health industry connections, while the Banff Competency Matrix Model with a general management focus, was included since these competencies were being considered by the Ministry of Health in British Columbia. A comparison of these competency can be found in Appendix B. What is evident in examining these competency lists is the different emphasis placed on different competencies. The analysis of these lists provided the background for the development of the survey tool used for this study which will be presented in chapter five.

In concluding this section, it is important to underscore Goodreau with her views from general industry on the competencies which she sees as wanting in current health-care managers:

- An understanding of better systems tools, an understanding of processes, a systems orientation, operational excellences, performance management, accountability for results and continuing change management;
- Creating a network to understand common goals, partnerships and collaboration, and multiple stakeholders and disciplines; and

- Diversity in working with different perspectives, working with people from non-health areas, and improving the understanding of the health care consumer (cited in 2005:11 & 12).

This list of health industry leadership shortcomings will be relevant to the review of current health management education resources in chapter four and later in chapter seven when discussing the current competency learning needs of health-care managers.

The material in this section has shown that the effects of change on health-care managers is substantial as they adapt to increased workload and responsibilities, and face reduced job satisfaction, career opportunities, time and trust. The loss of trust in the health organization is perhaps the most concerning side effect of health reform in light of the essential need in caring for ill clients. Health-care managers face new learning challenges in order to effectively manage their new environment. A similar awareness of new learning for managers was noted in a National Health Service (NHS) directive in Britain which states:

Leaders at every level in the NHS need to learn and develop core management skills which continue to be developed and refreshed at different stages in their career (Jasper 2002:64).

The question of what skills are of priority to health-care managers in British Columbia will be examined more fully in chapter seven. However, if health-care managers at every level of the health industry in British Columbia need new skill development then the learning resources available to them are critical. This will be the focus of the next chapter.

### **3.4 Conclusion**

This chapter has shown that there are many similarities between the health industry and other industries, but also a number of differences. While the health industry has always regarded itself as 'unique', this status may be fading as the industry adopts a more corporate structure introduced with health reform. Whether this shift creates an environment that is more conducive to quality care will be determined in time. For the present, the changes to the organization and its managers depict an industry in transition, one that offers both challenges and opportunities to its members.

Health reform has created a neo-bureaucratic structure in the health industry of British Columbia flattening the upper managerial levels and retaining much of the lower traditional structure. Despite the outer impression of structural reform, a traditional bureaucratic climate prevails with the creation of six new decentralized bureaucracies in the form of regional health authorities. In addition, the reform process did not penetrate deeper into the organization to reexamine management processes and procedures nor in redesigning the

management role. The reform process disrupted the organizational culture of the industry, produced an increased complexity and may have damaged the learning capabilities of its members. Further restructuring of the health industry to redesign frontline management jobs for greater innovation and autonomy, is not evident even though the reform process is continuing. The outcome of such massive change to an already complex industry is not positive if compared to other large industrial reorganizations. Yet, the incentive to proceed remains. The greatest concern is what the long-term side effects will be and if any serious damage has already been inflicted on the industry.

As for health-care managers, they are struggling after three rounds of health reform, and find themselves in a situation with increased workloads, reduced support and resources and facing daily management challenges for which their previous management skills may be inadequate. Their career mobility has been restricted with the introduction of senior managers from non-health industries, a policy which may be short-sighted in light of the need for managers to understand the organizational culture and service delivery complexities for effective decision-making. While new skills are needed such learning is competing with time limitations, ongoing reform and an underlying uncertainty over job stability. Knowing what skill development would have the greatest impact at improving their working lives is also difficult in a complex industry that continues to change. Whether managers have sufficient change management training will be addressed in more detail in chapter seven. What is clear is that with such change and complexity the industry needs better trained managers and these managers need more learning opportunities. What may also be needed is a better understanding of the nature of the learning challenges these managers are facing, as traditional learning methods may also be outdated.

With all the changes in the health industry it is not surprising that there is a crisis in the recruitment and retention of industry leaders. This human resource issue has arisen at a time of diminishing health professional resources, increased retirement of senior managers and greater competition with other industries for management talent. If this leadership challenge is really a learning challenge then the learning opportunities available for health-care managers are fundamental in addressing this crisis. The question is whether the health industry is fully aware of how to address this learning challenge. The next chapter will focus on health management education and the resources available in British Columbia to meet this new learning challenge.

## Chapter 4

# Health Management Education

---

*In a time of change it is the learners who inherit the future.  
-Eric Hoffer*

### 4.1 Introduction

In the previous chapters, health reform causes and consequences for health-care managers were shown to have created a need for new skills to meet the changing demands of a complex service industry. In keeping with how change affects managers, this chapter will focus on the relationship between organizational change and learning. The interrelationship between change and learning has been explored by many writers with Garside making the most concise and relevant statement that “learning and change processes have a reciprocal relationship – change is a learning process and learning is a change process” (Garside 1998:13). Adopting this perspective, health reform should have introduced many learning opportunities for health-care managers but this has not been the case. The material in this chapter will show that the learning options for health-care managers are complicated by access issues and reduced opportunities. Nevertheless, the principle of increased learning at a time of organizational change is a fundamental necessity as Senge points out that “only those organizations capable of being flexible, adaptive and productive have any hope of succeeding”. For this to happen, he argues, “organizations need to discover how to tap people’s commitment and capacity to learn at all levels” (Senge 1990:3).

However, increased organizational complexity created by health reform may have reduced the learning capability of members in the health industry. According to Senge, such massive change would induce a ‘survival learning’ or ‘adaptive learning’ mode (cited in Smith 2001:3). This reduced learning capability has arrived at the same time as health-care managers face new challenges to unlearn old skills and learn new ones, find time in an already overbooked life for study, and be assured that such learning is important in an organization that keeps changing. Increased organizational complexity may also demand a new type of leader, one not likely to be found in the graduates of current management education programs. Senge envisioned these new corporate leaders as being capable of becoming designers, stewards and teachers of learning; ‘designers’ through organization policies, strategies, and systems; ‘stewards’ by explaining why

the organization does what it does, how the organization needs to evolve, and how that evolution is part of something larger; and ‘teachers’ by defining reality and fostering learning. These leaders need to become responsible for building organizations so individuals can expand their capabilities to understand complexity, clarify visions, and improve shared mental models (cited in Smith 2001:8). The ultimate outcome of the actions of this new leader would be to create a learning organization. A health industry perspective of a learning organization can be seen in a NHS report in Britain. The report states that a learning organization is “one that facilitates individual and collective (organizational) learning with a view to continuously transforming itself, letting go of the past and trying new ways in the future” (Robertson 2003:1). This new learning environment would require leaders of lifelong learning, a new role for many managers. Recognition of the increased need for lifelong learning for managers is noted in the following NHS directive for Scotland:

The concept of lifelong learning reflects the fact that, in the midst of change, we need to update continually the skills in the workforce and better equip people to manage their own future. Learning is a broad term encompassing a wide range of activities including initial and adult education, training, skills development and leisure activities. Lifelong learning is particularly concerned with improving access to learning opportunities and encouraging people to take greater responsibility for their own learning (cited in 1998:1)

But there are challenges in achieving this lifelong learning concept for the NHS, and perhaps most health organizations. Fryer stated:

...if we think that we can simply pump in more money to solve this problem, we are grossly mistaken. We have got to actually change the nature of healthcare. It is my belief, ...that learning can be a contributor; can help to change the culture, can raise the skills, can raise the levels of understanding; can change the nature of everyday encounters between health and the public at large. That’s why we need to turn lifelong learning into something much more exciting, much more engaging and much more part of everyday life (cited in 2003:1).

In other words, in order to make lifelong learning part of the organizational culture, that culture must change. Such change has not been the focus of health reform, which means that further organizational change may be needed before a lifelong learning environment can be realized in the health industry. How health-care managers view lifelong learning and the effects of health reform on their learning will be examined in more detail in chapters six and seven. At this stage, this lifelong learning challenge will be examined by looking at what this means for adult learners.

With time at a premium, adult learners want services “their way” – fast, flawless and convenient. Working adult learners are demanding that the educational system provide them with services to fit their overbooked personal and professional lives. The features they seek include: continuous enrollment, less ‘time to degree’, compression of courses (e.g. students spending less than eighteen hours per unit in class, over a five to six week term compared to forty to forty-five hours per unit in a traditional university course) and modular courses to allow them to build up their degrees from a number of self-contained modules. Many adult learners also prefer ‘just-in-time’ learning that can immediately be applied in the workplace as opposed to the ‘just-in-case’ acquisition of knowledge. They like standardized, prepackaged and scripted courses, appropriate use of learning technologies, and wider credential acceptance (Feder 1999; Cunningham, Ryan et al. 2000; 2001; 2002; Mason 2003:7). Rumble found that adult learners wanted a stripped-down version of higher education without student affairs, extra-curricular activities, residence life, varsity sport, or campus chaplains. Instead these older students want no-frill, high-quality educational opportunities at low cost, where education is close to home and operates during convenient hours, preferably around the clock (Rumble 2001:2).

Adult learners also bring a unique set of characteristics and issues to the learning environment. They are usually characterized as self-directed, goal oriented, practical, problem-solvers with accumulated life experiences. They benefit from a scaffolding approach to learning where the educator provides more support in the early stages and gradually fades from the process until the learners emerge as facilitators and co-learners (Conner 2003). These learners also bring a number of issues which Bird and Morgan cite as: conflicting work and family commitments; financial strain; and a predisposition and readiness for independent learning. Adult learners need timeliness of appropriate learning support, user-friendly administrative systems and staff, ease of contact and approachability of academic staff, and suitability of program content, design and delivery method (Bird and Morgan 2003:2). These adult learners come to the learning setting with a mixture of apprehension and commitment as their learning outcome is usually directly tied to their career. Extensive educational research has gone into what motivates these adult learners.

Ryan and Deci separate learning motivation into two categories:

- *Intrinsic* motivation refers to behaviour that is inherently interesting or enjoyable and can include desires to: broaden one’s experience, improve one’s career skills, learn new things, improve self-confidence, and/or study for enjoyment and enrichment.
- *Extrinsic* motivation describes causes that relate to forces outside the individual such as: pressure from an employer, job security, the need for a promotion, to improve financially, to get a higher qualification, and/or for a career change.

Ryan and Deci state that “over three decades of research has shown that the quality of experience and performance can be very different when one is behaving for intrinsic versus extrinsic reasons”(Ryan and Deci 2000:55). Health-care managers may exhibit either or both motivations. While a superficial analysis might conclude that most health-care managers behaviour is a result of extrinsic motivational factors, Ryan and Deci believe that different types of motivation lie along a continuum of relative autonomy and that intrinsic motivation is also involved. These authors note that at a time of great change, in particular:

.....interpersonal events and structures (e.g. rewards, communications, feedback) that conduce toward feelings of competence during action can enhance intrinsic motivation for that action because they allow satisfaction of the basic psychological need for competence.....for a high level of intrinsic motivation people must experience satisfaction of their needs both for competence and autonomy (Ryan and Deci 2000:58).

For many health-care managers, as adult learners, the need for choice and the opportunity for self-direction, increased competency and autonomy are all important. Thoms says that adult learners want control over their learning experiences and need to know why the learning is required. They want to build on what they already know, have meaningful practice and have learning outcomes which “can be used immediately, in concrete, practical and self-benefiting terms” (Thoms 2001:5-7).

This chapter, in examining the relationship between change and learning, will explore whether or not education providers are fully cognizant of the new learning challenges of health-care managers caused by health reform, whether managers need new educational opportunities more adaptive to their environmental changes, and whether new learning technologies might be an effective option in meeting this challenge. In addressing these points, this chapter has four sections; a review of why health management education is needed today, an examination of the learning challenges of health-care managers, the growth of e-learning, and a description of the health management education opportunities available through the health industry and higher education in British Columbia. The information will show that while there is a shift in the learning needs of health-care managers the educational opportunities are limited.

## **4.2 The importance of health management education**

As shown in the previous two chapters the complexity of the health industry continues to grow with ongoing reform, funding limitations, and new service and technology demands. To meet this increasing complexity health-care managers are expected to acquire new knowledge and skills.

Whereas in the past a health professional could be assured that his/her basic academic training, periodically supported by on-the-job training, would serve them for their entire career, this is no longer the case. Guest describes this shift as follows:

In the past a person's skills, knowledge and competence were judged largely on the initial education and training he or she had undertaken, with continuing professional development (CPD) pursued only by those with enthusiasm. Gradually it has come to be recognized as an important, even vital, means of progression (Guest 1999:23).

Health reform and the need for increased information, often referred to as the Knowledge Society, has escalated the need for learning. According to Sveiby, the Knowledge Society consists of two components: Intellectual Capital (IC) and Knowledge Management (KM) (Sveiby 2001). Teare and Rayner describe "intellectual capital" as the collective and cumulative organizational knowledge embodied in wisdom, rather than knowledge within individuals (Teare and Rayner 2002:2). Stewart takes a similar collective view and describes the components as the organization's people, the efficacy of its management systems, the character of its relationships to its customers, the dominance of information in the value chain, the substitution of knowledge for physical materials and assets, and the move by labour markets to reward knowledge work (Stewart 1997). Romses breaks down intellectual capital into two elements: human capital (i.e. combined knowledge, skill, innovation, and ability of organizations, individual employees, managers, or leaders to meet the tasks at hand) and structural capital (i.e. the organizational capability that supports the employee's productivity such as information technology systems, databases, organizational structure and concepts, patents, trademarks, copyrights and documentation) (Romses n.d.:2). Whatever description is preferred, Romses argues that:

Intellectual capital is now being identified as a key intangible resource in organizations. Consequently, ensuring that strategic leaders and managers understand this, and that organizational structures and cultures reflect this is fast becoming a matter of organizational survival (Romses n.d.:1).

Today, organizations are valued for their intellectual capital. Por contends that "the current measure of an organization's mettle is no longer money, but the knowledge and intelligence of its members, and their capacity to effectively collaborate in learning partnerships of all sizes and kinds, within and outside the formal organization" (Por 2002:1). Drucker also holds a similar view and states that:



We are entering the knowledge society, in which the basic economic resource is no longer capital, or natural resources, or labor, but is and will be knowledge (cited by Nonaka 1995:43)

These views support the Canadian federal government's Innovation Strategy that show by 2004 over seventy percent of all new jobs in Canada will require some form of post-secondary education (cited in 2004:v) and many professional jobs advanced educational qualifications. A study of knowledge workers for the province of Nova Scotia (an east coast province of Canada) found that more than fifty percent of employees in the health industry were knowledge workers (Beck 2005:5). The realization that the health industry is a knowledge intensive business has not only awakened the urgency for improved knowledge management but supports the premise for increased learning.

In this new Knowledge Society, management skills are an important part of an organization's value. Pfeffer and Fong found that management skills were essential for economic prosperity and development in changing industries. Managers need to be able to mobilize and use knowledge and have the skills to manage large scale organizations effectively (Pfeffer and Fong 2002:1). While the health industry may hesitate in viewing itself as part of society's economic development, many of its managers are responsible for large and complex service portfolios and budgets, as was shown in chapters two and three.

With the increasing emphasis on greater accountability, an evidence-based culture is being promoted in which health care providers, administrators, and policy makers make decisions based on appropriate, balanced and high quality information. In Canada, most provincial governments remain committed to increased evidence-based clinical and management decision-making which means that managers need to be more conversant with the access, use, interpretation and presentation of statistical information. In addition, new skills are needed as the industry shifts to a corporate model, which is a different model than that used in the past. How health-care managers view their need for new management skills will be examined in more detail in chapter seven. However, the importance of management education for their health industry has been noted in different countries.

In 1998, management training was highlighted in the South African National Health Plan which stated that:

The strengthening of health service management is internationally accepted as being one of the most critical factors in bridging the gap that exists between policy and implementation(1998:1).

In 2001, a similar view was advocated by Griffith and Warden at the United States National Summit Meeting of the Association of University Programs in Health Administration in their Summit Advance Paper entitled “Assuring Management Excellence in the Healthcare System”. In this paper they state;

We believe that if we improve healthcare management, we will improve quality, reduce cost, and open opportunities to expand access. The present support for healthcare management, however, needs improvement in every aspect. Beginning with attracting young people, progressing through entry education, continuing education, and the special preparation for senior management. We need specific goals, measures of how well we achieve those goals, and accountability for that achievement. We need programs that attract and reward excellence and that make mediocrity untenable (cited in 2001:1).

In Canada in December 2004, a Conference was held at Royal Roads University, in Victoria, British Columbia titled; ‘Developing Strategic Leadership for Health Reform: Challenges and Strategies’. In a discussion paper, Dickson, identified the complexities facing health care leaders today as being in three arenas: leadership of self (personal leadership) which looks to the fields of psychology and spirituality; leadership of others (supervisory leadership) which is characterized by management processes (i.e. formal structures, meetings etc) and interpersonal relationships; and leadership of organizations in systems (strategic leadership) which involves the ability to analyze situations, devise appropriate broad interventions, and enact them effectively. Dickson further stated that:

The greater the complexity of an arena, the greater the likelihood that there will be competing interests, contradictory structures, disconnections of function across boundaries, and opportunities for confusion and miscommunication (Dickson 2004:5).

Conference participants concurred that these three arenas of learning were needed but pointed out that until there was a critical mass of such management skills in the industry as a whole, effective health reform would remain illusive. Currently, the numbers seeking leadership education are still low in comparison to the quantity of managers in the industry.

For health-care managers, the need for management education has escalated at the same time the existing method of on-the-job learning has been overwhelmed by the magnitude of responsibilities and change which managers are now experiencing. As the manager’s role has become more complex former management methods and processes are no longer working. This new management environment with its increased knowledge demands has exponentially raised

the educational goals for managers. Such change has placed greater demands on educational resources and have presented new learning challenges for health-care managers.

### **4.3 Learning challenges of health-care managers**

Chapter three shows that increasing the complexity of an organization can effect the learning abilities of its members. Since health reform increased the complexity of the health industry, there should be an expected increase in learning challenges for health-care managers. A recent review of the learning environment of the NHS in British provides one perspective of the type of learning challenges in today's health organizations. This study identified such learning challenges as: a patchy an uneven provision of learning, variable management support, unequal access to learning opportunities, insufficient time for learning, lack of funding, lack of funds to temporarily replace learners while they are studying, inadequate information and advice, uneven capacity for learner support, no common framework for quality or accreditation, little portability of credit and insufficient opportunities for applying learning (Taylor 2004) Data will be gathered in this study to ascertain if there are similar learning challenges for health-care managers in the health industry of British Columbia. The focus of this section is on how organizational change affects learning and what this means in seeking new learning opportunities In addressing these topics the material examines the following issues: stress and organizational support in learning, problems with MBA education, the need to focus on competencies, and the need for more academic credit.

#### **4.3.1 Stress and organizational support in learning**

Effects of increased workload, lack of time and ongoing stress have been issues confronting many organizations in their efforts to increase learning, and are not exclusive to the health industry. While, research on management processes and procedures and technology may streamline some of the workload, it still may not fully eliminate the learning problem as there are other contributing factors to workplace stress. Stress-related illness, costing organizations millions of dollars, is a good gauge of what is happening in many organizations. According to workplace studies stress-related illness is “a symptom of a stress in the relationship between the manager and the managed”. In this aspect Paterson notes:

While the illness manifests itself in medical terms or in disability, it cannot be ‘cured’ unless the underlying cause – stress in the relationship, is dealt with (Paterson 2003:9).

Two studies have shown that workplace relational problems are at the core of much stress. Marmot's study of the British Civil Service showed that: “workplace illness is found on a gradient in the hierarchy. Those at the bottom with no voice or control had four times the amount of illness

and even accidents than those at the top”. Duxbury deduced that “the issue that drives most illness, absence and acting out, is behaviour of the manager. She is also clear that all the conventional cures such as flex time do not work in the unreformed organization”(cited in Paterson 2003:10). This reiterates the earlier premise in chapter three that the organizational culture must change first if reform is to be effective. To change the organizational culture means a change in the old model doctrine of command and control. Basically, Paterson found that both the military and large corporations have discovered that with so much information today, “everyone needs to be in the loop at the same time and those at the front need to have the maximum liberty to take action with no call back for orders or more information”. Paterson also found that “giving more autonomy to the frontline takes advantage of distributed intelligence within the organization, and allows frontline personnel to have an active voice in operations” (Paterson 2003:10-15).

If stress in the workplace is directly related to a lack of voice in the organization and the feeling of powerlessness, then providing frontline managers and professionals with greater autonomy may reduce stress and open the door for increased learning. Would health-care managers be allowed to restructure their work in such a way? Such a move would necessitate greater trust than is currently evident and perhaps different leadership. As noted in chapter three, a shift of this nature is unlikely in the near future, so increased stress and time limitations for learning may likely persist for health-care managers. Without an organizational culture shift, Cunningham thinks that learning will need to make further adjustments to accommodate the learner. He observed:

Given the work and domestic commitments of most adults, and the ‘time poverty’ felt by many people nowadays, it is not surprising that convenience of location and time scheduling, as well as brevity of study program, or compression of study periods, have a major appeal to adult students .....these time-poor and instrumentalist-oriented learners want a ‘stripped down version of higher education (Cunningham, Ryan et al. 2000:110).

Whether or not health-care managers can eventually leverage greater control of their workplace, time will tell. For the present, if they are to pursue additional learning they will need assurance that their organization supports such activities.

Organizational support for learning has a number of features. Support may range from the simple recognition of the learner’s effort in assuming additional responsibilities for learning to providing educational tutoring, technical and/or financial support. Organizational support, or lack thereof, sends a message to the learner that education is valued (or not valued) in the organization.

This study will be examining organizational support for health-care management education following a period of health reform. In addition, senior health-care managers will be asked if management education is important in the hiring and promotion of health-care managers. If management education is not important, and the industry is not supportive of such learning, then health-care managers may be wasting their energy and resources in pursuing such learning. If management education and the acquisition of new skills are important then a key question is whether the focus should be directed at acquiring new management skills or an additional postgraduate qualification. An examination of these two options will be the focus of the next two segments. Today, choosing a management qualification may present new challenges for the learner.

#### **4.3.2 Problems with MBA or equivalent education**

To meet the demands of a continually changing environment most industries make sure their managers are well educated. However, the choice of management educational opportunities vary in their ability to address the realities of many organizational priorities in a timely way. The timeliness of such education not only refers to whether the curriculum is keeping abreast of the changes in the industry but also whether general management education can adequately address the management complexities of today's organizations. While business/management programs have existed for decades, perhaps it is time to reassess their effectiveness in addressing the complex and changing working environments many managers face.

Executive training for industry in general first appeared with the establishment of business schools in the 1800s in North America; Wharton School (1881), schools of business at the University of Chicago (1894), the University of California (1898) and Harvard (1908). After World War One, many colleges and universities responded to industry's need for competent managerial level personnel by providing business programs (Eurich 1985). In Canada in 1919, Queen's University launched the first business degree program (Daub and Buchan 2005), and by the end of the century most universities in Canada were providing undergraduate and many postgraduate business or MBA qualifications (2003). By 1995, when some provinces in Canada stopped funding graduate degree programs, Canadian educators began to revise their business/management programs replacing the old format with a new emphasis on producing big-picture leaders. In recent years, the United States has been pressured into reexamining their programs because of a decline in MBA enrollment (i.e. a thirty percent decline since 1998) due to soaring tuition fees (i.e. up fifty-five percent in the past six years), global competition and world events (2005:1). Prior to this drop in enrollment, however popular, business and MBA programs had a number of critics.

Researchers found that management education was designed to teach methods and techniques developed from behavioural science and did not prepare managers for working in continuously changing, complex organizations. Mintzberg argued for years that the MBA was a fabulous design for learning about business but wrong for training managers (cited by Reingold 2000:3), especially for those in government and the social sector (Mintzberg 2004:2). Lydon concurred and said that MBA students were being taught to analyze problems, not to manage companies. He believed the failure in understanding the needs of the workplace did not prepare managers to face rapidly changing situations and demands nor understand the need for rapid skill enhancement (Lydon 1984:97 & 103). Richards-Wilson listed a number of complaints of business/management education as:

Criticism of business education questions its relevancy, cost, value, delivery method and timeliness.....employees have criticized business graduates as being unable to transfer knowledge to the fast-paced, globally connected, real world.....complaints from the business press and others regarding the gap between the skills of business graduates and the needs of American business ..... disconnect between what business students should know and what they are taught.....and many companies complained that MBA students often lack the experience and judgment needed in an unpredictable environment (Richards-Wilson 2002:1).

In Australia, Zuber-Skerritt found that Master of Business Administration (MBA), Doctor of Business Administration (DBA) and PhD programs were heavily criticized for being too theoretical and irrelevant to the needs of industry. Another study by Zuber-Skerritt found:

.....there was a gap between the requirements of the business community and the educational services being provided by educational institutions, in terms of both “content” issues (what managers learn) and “process” issues (how they learn it) (Zuber-Skerritt 1995:36).

A 2002, three-year survey of more than two thousand MBA students and graduates from thirteen business schools across the globe summarized the findings in the following statement:

.....business education was inadequate in preparing future business leaders to manage value conflicts and dilemmas they expect to face in their business careers (cited by Olian 2002:20)

Another study on students found that whatever the caliber of MBA education, excellent or mediocre, there was an affect on the learner. The survey of thirteen international MBA programs by Gentile and Samuelson, found that MBA programs “do shape student attitudes and that students were moving in a direction that wouldn’t help them address the kinds of values, conflicts,

crises, and trends that the press, the general public and faculty are concerned about” (Gentile and Samuelson 2003:2 & 3). This finding emphasized the need for quality management education, as the outcome does have an effect on both the individual and the organization.

In addition to the criticisms there were those who suggested changes were needed in the MBA curriculum. Teare and Davies felt that the curriculum needed to reflect ‘real time’ and ‘real place’ and ‘real problems’ and needs of the learner (Teare and Davies 1998). Sauser and Sauser insisted that the curriculum needed to address the factors driving change. Learners had to be exposed to the dynamics of political, economic and cultural systems, understand how environmental and demographic factors influenced everyday lives, appreciate the power of technology, and the blinding speed at which information was being transmitted throughout the world (Sauser and Sauser 2002:5). Bennis, Burke et al. stated that leaders needed to know more about neurosciences, cognitive psychology, anthropology and human development and to learn leadership skills within some kind of value-based context and the appropriate use of techniques, as well as the techniques themselves. Leaders also needed to understand ‘collective leadership’ and how to organize ‘collective genius’(Bennis, Burke et al. 2003:5). Allee suggested a new thinking in the training of managers was needed which:

.....requires not only a change in the underlying scientific foundation from Newtonian to quantum physics, but also a new organizational structure that is constantly emerging and treats growth as organic and chaotic rather than linear and managed. To maintain change, she argues, there is a need for a new definition of management as insightful and participative rather than controlled and predictable, with workers encouraged into multi-faceted roles rather than specialized and segmented tasks, and always learning (cited in Jones 2002:1).

The director of the Macquarie Graduate School of Management in Australia recognizing the challenges facing today’s management educational programs had the following to say:

The best management education asks managers to balance the old and the new, the simple and the complex.....They need to not only stay sane, but also revel in an environment of uncertainty, complexity, chaos, ambiguity and paradox, where there is no straightforward answer or one best way (cited in Clerk 2002:1).

In addition, there are others who suggest that the best learning environment for managers is their own organization. It was Revans in 1962 who recommended that management education should take place in the workplace and focus on workplace priorities (Revans 1971:151). Teare, Ingram et al. concurred by saying that “the organization itself is actually a fine business school in its own right” (Teare, Ingram et al. 2002:2). In Mintzberg’s opinion managers need to be in an

environment with other managers in order to understand how managers make decisions and how they develop strategy. He indicated that managers need time to reflect, to be able to ask the right questions, to avoid the traditional manager's trap of reacting to one crisis after another, and to learn how to improve their judgment and performance. For in Mintzberg's view:

Management is, above all, a practice, where art, science, and craft meet (cited by Reingold 2000:3).

Today, this need for managers teaching managers may be surfacing in the increased request for more coaches and mentors in the health industry, an issue which will be examined further in chapter eight.

Higher education in their defense of decreasing MBA enrollments stress that one of the main reasons for this change is that employers are demanding graduates who are better prepared to leverage technology in order to advance corporate strategies and operations (Olian 2002:11). In Olian's opinion:

....consumers (and those who fund their education) are increasingly time and cost conscious. Students therefore choose degree formats by weighing the relative time commitments and financial costs of the formats offered, taking into consideration their personal life and resources (Olian 2002:9).

What is apparent, is that unless current MBA or equivalent education can be redesigned to respond more effectively to organizational change and complexities, time, and costs, the value of such education will remain in question. In addition, if all management education has an effect on students, regardless of its quality, organizations will need to be vigilant in evaluating the skills of graduates to assure value for money. With today's pace of change and new skill demands no organization can sit back and accept inadequately prepared leaders, the consequences of such action are too costly. Whether the health industry requires its own management education program(s) or whether management education for the health industry needs to have greater health organization involvement are open questions. What is certain is that health-care managers need quality management educational opportunities that address their industry's changing circumstances which may only be possible if the industry takes a stronger role in its planning. While the debate continues over how a health management education strategy may be structured, health-care managers may be advised in the short-term to focus more on upgrading their skills. The question is what skills should they concentrate on for the best results?



### 4.3.3 The need to focus on competencies or skills

According to Bolden and Gosling, the notion of management competence originated in the 1970s and early 1980s with the American Management Association. In 1986, it was adopted for management education in Britain, and by 2002 the British government, in its pledge to address a national management and leadership deficit, introduced a range of initiatives. These British initiatives focused on “evidence-based policy, measurement performance outcomes and consistency of approach that encouraged increased reliance on government-endorsed models, frameworks and standards”. By 2004, the National Occupational Standards (NOS) in Management and Leadership were introduced (Bolden and Gosling 2004:3).

This competency approach then became popular in other countries in the training of managers. Salaman described the reason for its popularity as follows:

....the competency approach describes the management/leadership role providing a framework to measure, monitor, compare and regulate the behaviour of managers, it defines qualities and ongoing improvement for new managers, and it delegates the learning responsibility to the individual managers (cited in Bolden and Gosling 2004:8).

However, Bolden and Gosling noted that this “competency/standard approach to leadership and management development has been subject to extensive critique by academics and practitioners for some time”. They stated:

....whilst the development of competencies and standards can be a valuable way of encouraging individuals and organizations to consider their approach to management and leadership development, it is in their application that difficulties can occur. When working with competencies and standards there is frequently a temptation to apply them deductively to assess, select and measure leaders rather than inductively to describe effective leadership practice and stimulate debate (Bolden and Gosling 2004:2)

These two authors described the major weaknesses of a competency approach as being:

- overly reductionist, in that it is weak in its ability to represent occupations which are characterized by a high degree of uncertainty, unpredictability and discretion, and fragment the management role into constituent elements.
- overly universalistic, in that it implies an assumption that the management standards are equally relevant to managers in small and large organizations which assumes that all situations demands the same type of leadership.

- more reinforcing of traditional ways of thinking about management
- more focused on measuring behaviours and outcomes to the exclusion of more subtle qualities, interactions and situational factors and may inhibit organizational learning and development, and
- a limiting and mechanistic approach to education in favouring training over the imparting of knowledge and development of cognitive abilities (Bolden and Gosling 2004:3 & 4).

At the same time that the competency approach was gaining acceptance in general management development circles, it was being discarded by the military. Buckingham notes that, after forty years of using this approach to develop the “perfect officer”, the British and United States military discarded the system because, in their view, it was founded on three flawed assumptions:

- those who excel in the same role all display the same behaviours;
- each of these behaviours can be learned; and
- each of these behaviours should be learned, because improving your weaknesses leads to success (Buckingham 2001:2).

This opposition to a competency approach presents a dilemma for the health industry in British Columbia, as it appears the approach may not produce the intended outcome of the “perfect manager” and could be a waste of money. However, Bolden and Gosling insist that a competency approach has some merit in that it can be used as a tool to offer guidance and provide some structure for discussion. What is more important, in their view, is to:

.....get beyond a simplistic description of behaviours to a broader appreciation of the cognitive, effective and relational aspects of leadership and management and particularly the collective, moral and emotional dimensions of such processes (Bolden and Gosling 2004:10).

Thus, the competency approach in this study has been used as a tool for dialogue in determining what competencies are currently important to health-care managers. A description of the study competencies will be presented in chapter five, some data provided in chapter six and an analysis of the data in chapter seven.

Finally, another perspective on competencies is provided by Buckingham who insists that instead of simply identifying the competencies for each role, efforts should be made to identify the outcome expected and/or the natural talents common to the best in each key role, measuring individuals on whether s/he has improved on the required outcomes and encouraging each person to strengthen his/her talents with skills and knowledge (Buckingham 2001:1). The link of

management skills to results is a view also held by the New Zealand Institute of Management as noted in the following statement:

...management capability was demonstrated in business and/or organization performance and was the result of management leadership and competence in the key management practices that lead to sustainable business performance and business growth. The measurement of management capability must therefore link the application of management skills and abilities (management practices and competencies) to the results achieved and which reflect performance (cited by Chapman 2004:22 & 23).

In the end, health-care managers, like other managers, need guidance as to what competencies or skills to pursue. The problems they are encountering is that competency lists are often static, not designed for individual management positions, not updated to meet shifting worksite priorities and not attached to performance. In this study a short competency list will be employed as a guide to determine the learning needs of health-care managers at one point in time. Further discussion on how to design and utilize competency lists and prioritize competency learning will be left to other researchers. However, if lifelong learning has become a necessity for health-care managers then can it be presumed that more academic credit will be forthcoming for all types of learning?

#### **4.3.4 The need for more academic credit**

Prior to health reform, health-care managers attended education programs, particularly in their own health organization, with little interest in credit or formal recognition. This situation was accepted as many professionals were content with staying in one organization for their entire career. Only those who moved between health organizations needed to repeat educational courses because of this non-credit or lack of reciprocal recognition of learning between health organizations. The arrival of health reform, lifelong learning and increased job instability meant that this situation is now much less desirable. Credit for non-formal learning (i.e. on-the-job training, in-service training, workshops, seminars, etc.) increased in importance with increased management job competition. In addition, many health-care managers argue that their years of professional experience should also be recognized as, to them, this constitutes a form of lifelong learning. Providing credit for professional experience presents a number of problems as clearly some individuals learn more than others in their professional careers. Some credit is provided in higher education for both experience and non-formal education but this allowance is on an individual basis as there is no national standard or process for evaluation in Canada. The problem in providing credit for either on-the-job learning and/or non-formal learning, as observed by Miller, is that today “the institutions of knowledge transparency and valorization are strongly

biased towards formal educational institutions that have the state sanctioned right to certify ‘educational achievement’” (cited in 2002:45). According to Miller,

A learning economy and society will need to take a much more open, efficient and refined approach to the recognition of what people know – regardless of source. Otherwise it will probably be impossible to achieve the requisite intensity of continuous learning (cited in 2002:46)

As Miller points out, measuring what people know using yesterday’s yardsticks is “too rigid and narrow” and “innovations in this field are strictly constrained by vested interests”(cited in 2002:47). Currently, increased academic credit is mainly being addressed in the vocational educational community.

In the 1990s, a number of countries have taken action on increasing academic credit. Greece, Italy, Spain, Finland, Norway and France have all introduced measures to improve the assessment and recognition of work-related learning (2002:16-28). According to Jones and Hadjivassiliou, the European Union is “considering a European Skills Accreditation System to provide a permanent and accessible skill accreditation mechanism that would allow individuals to validate their knowledge wherever it has been acquired (cited in 2002:77,78 & 88). Britain emphasizes experience-based learning at work and focused on what is learned not where it is learned (2002:23) and has such programs as Accreditation of Prior Learning (APL), Accreditation of Prior Experiential Learning (AREL) and Credit Accumulation and Transfer Schemes (CATS) which allow learners who have missed out on higher education the opportunity to gain qualifications, and to update their professional skills (2002:499). The United States experience has found that:

.....integration needs to take place at the macro-level by embedding skills within a broader context of economic and social activity, and specifically within the areas of secondary education, work-based learning and local and regional economic development (2002:88)

In addition, the United States established the Council for Adult and Experiential Learning (CAEL) which enables tertiary institutions to establish procedures and policies for providing credit-equivalents for student prior learning (Farrell 2001:105). These attempts to capture non-formal learning are still in the early stages but signal an increased awareness that learning can be achieved through a number of avenues. However, supporting lifelong learning and increased academic credit for adult learners, Cunningham presents a word of caution:

The increasing use of credit transfers from work training programs and competency-based institutions may disrupt curriculum coherence, with a disjunction between practice-based knowledge, and theoretical knowledge, and a questioning of the skills which can be attributed to a graduate of a particular university. At issue here is the notion of 'seamless articulation' between various providers, and whether this is to be encouraged. Recognition of Prior Learning, while desirable in an efficiency sense, may not make educational sense if curriculum is considered holistically (Cunningham, Ryan et al. 2000:112).

Notwithstanding the administrative challenges, the need for adult learners to gain such academic credit is vital if they are to advance in their efforts to stay abreast of the new skill demands within an environment of ongoing reform. How health-care managers view such credit will be examined in this study and discussed further in chapter seven.

Above and beyond the need for increased credit for learning, a fundamental problem for health-care managers is that they continue to pursue such learning without the benefit of an overall plan. In section 4.5 of this chapter it will be shown that currently there is very little linkage or credit in the learning opportunities available to health-care managers. The concept of a seamless learning strategy is currently not available to health-care managers in British Columbia. Devoid of such a plan, many health-care managers currently select educational opportunities with no certainty that such learning will have any bearing on their career prospects. In addition, there are few e-learning options available to health-care managers, an educational delivery method which is increasingly available to leaders of other industries. Whether e-learning can help health-care managers will be examined in more detail in chapter eight. The growth of e-learning and its importance to other industries will be the focus of the next segment.

#### **4.4 The growth of e-learning**

The development and maintenance of critical skills through professional upgrading has become increasingly important to the success of individuals, companies, communities and national economies. The need to be able to find, analyze and synthesize information has become more imperative than the ability to remember information. E-learning offers hope for meeting the demands of a world economy increasingly dependent on team-centered, knowledge-intensive work. Arguably, e-learning provides workers with access to their knowledge just-in-time and addresses the learning needs of a distributed, diverse workforce resulting from mergers, reorganizations and down-sizing. (Henderson 1999:2); (2000; Farrell 2001:20); (Mason 2003:6); (Edmonds n.d.:1); (2003:10). Brandenburg and Ellinger see e-learning as the means of addressing the move toward the virtual workplace, and the increasing rate of change (Brandenburg and

Ellinger 2003:308). A European Union (EU) survey found that e-learning helped to improve teaching and learning processes, enhanced the general quality of education and the skill level of the learners, facilitated the development of lifelong learning, contributed to the development of an information society and supported the economic development and competitiveness of industries on a global scale (2001:25). In discussing e-learning this section will examine the acceptance and promotion of e-learning in different countries and problems with regard to accessing technology.

#### **4.4.1 Acceptance and promotion of e-learning**

E-learning, whether on- or off-campus, in support of, or as a dominant delivery system has escalated rapidly since the mid-1990s, after years of trials and tentative explorations from the late 1970s. Government endorsement in Canada is evident in the March 2001 report of the Advisory Committee on Online Learning (Canada), to the federal government. The report summarized its position as:

In a global society based on expanding knowledge, Canada's health as a civil society and its economic competitiveness, as well as the success of individual Canadians, will hinge on having the best possible education and access to lifelong opportunities. Around the world, online learning ...has emerged as a powerful and transformative means to meet these learning needs, as well as to extend and enrich traditional modes of instruction at the postsecondary level"(Farrell 2001:137).

In 2000, according to a Conference Board of Canada survey, e-learning has grown steadily in the private sector in Canada with forty-seven percent of employees using this format for skill development, and eighty-two percent plan to do so in the future. Fifty-eight percent of employees have used intranets<sup>1</sup> for skill development and ninety-three percent plan to do so. In addition, the Canadian Centre for Management Development opened 'Campus-e' in Ottawa providing a learning library of leading vendor online management courses; the British Columbia government's Department of Human Resources created an 'E-learning Café' which offered a selection of Skillsoft courses to employees; and Sasktel, in the province of Saskatchewan, provided an extensive array of e-learning educational activities to corporate business strategies and employee career development plans (Langford and Seaborne 2003).

In 2000 in the United States, the Web-based Education Commission Report to the President and Congress identified "the promise of the Internet as being to center learning around the student instead of the classroom; to focus on the strengths and needs of individual learners; and to make lifelong learning a practical reality" (Farrell 2001:138). In another report, the American Society for Training and Development (ASTD) noted the financial implications of such education as:

“corporate e-learning is a \$1.4 (or \$1.2 USD) billion market and is expected to grow to an \$8 (or \$7 USD) billion market by 2003” (2001:10). Cunningham noted that there were about ninety thousand courses delivered by distance learning in the United States, not necessarily totally e-learning, but with an e-learning component. Seventy percent of United States universities now offer e-learning courses, with one in three teaching entire e-learning degree programs (cited by Gallagher 2001:35); (Rossman 2003:4). A 2002 survey of corporate training directors in the United States showed that sixty-four percent offer e-learning courses to their employees, seventy-nine percent are presently moving curriculum to e-learning delivery, fifty-two percent say their e-learning initiative has been driven by an organized or sponsored strategy, while forty-two percent say their e-learning initiative has evolved without a defined plan (Langford and Seaborne 2003).

This picture is repeated in other countries. In Britain, the Dearing Committee suggested that information and communication technology (ICT) “holds out much promise for improving the quality, flexibility and effectiveness of higher education”(Rumble n.d.:1). By 1990, the European Communities (EC) program, Eurotecnet, was launched for the promotion of innovation in vocational training to take account of ongoing technological change and its impact on qualifications and employment (2001:16). In Australia, Lance states that e-learning is growing fifteen times faster than any other industry, probably at a rate of twenty to thirty percent a year. Lance goes on to say:

E-learning is here and it is big. It is far bigger and far more challenging than most of us imagined..... We are in the early pre-consolidation stage, and this whole area will be dominated by major Northern Hemisphere corporations. The lack in Australia of a coherent, intelligible government policy, the fragmentation of Australian activity, the fence around the house and my quarter acre lot which so many universities have, is not the way we should be going. We need clear government policy and we probably need financial support (cited in Gallagher 2001:78).

Internationally, in 2001, a survey of five hundred training directors at forty of five hundred of the Global 2000 companies showed that sixty percent had an e-learning initiative, eighty-six percent had a priority of converting current instructor-led sessions to e-learning, eighty percent were planning to set up or expand knowledge-management programs and seventy-eight percent were developing or enhancing electronic performance support (Strother 2002:1). The idea of e-learning for health industry education is not new and already exists in other jurisdictions. A major purpose

---

1: An Intranet is an information portal designed specifically for the *internal* communications of small, medium or large businesses, enterprises, governments, industries or financial institutions of any size or complexity.

of this study is to examine the use of e-learning for health-care managers in British Columbia, to see if current health-care managers are interested in this concept and to discover whether they feel they have the skills to proceed with such learning. In chapter eight the views of health-care managers towards e-learning will be examined. However, accessing technology, may still be a critical issue for some learners.

#### **4.4.2 Accessing technology**

Whether the learner is at work or at an academic institution accessing technology may still be an issue. Since most higher education institutions have both computers and technical expertise to assist learners the problem has been lessened. However, if health-care managers are to access e-learning at work the situation may be quite different. It is not that health-care managers do not have their own workstation computer (a percentage still share a computer) the biggest issue for them may be time to study at work, as noted in chapter 3 and in 4.3.1 above. The use of a home computer for such learning may present other problems such as the costs relative to maintenance, training, technical support and Internet connectivity. It is not surprising then to find Oliver pointing out that many students still do not have access to the forms of technology required for e-learning. He also found that access issues are more pronounced among learners from minorities, groups with special needs, those in rural regions, and mature age learners (Oliver 2001:225). Birdstall reports that in Canada computer ownership and Internet access is segmented heavily along social class, educational level and generational lines. While Canadians are rated as the most ‘plugged in’ people in the world, exceeded only by Sweden, this does not mean that Canada does not have a digital divide (Birdsall 2000:6).

To compensate for a lack of technical infrastructure, many countries are developing “learning centers” or places where students can access information communication technology (ICT) appliances and connectivity. These have evolved in a variety of forms such as multi-purpose telecentres, regional centers, mobile learning centers, telecommuting centers, cyber cafés, telecentre franchise, and, at a global level, by the World Bank’s Global Developing Learning Centre Network. Open source software (e.g. Linux) and low-cost computers, such as the Simputer (India), offer the prospect of lower-cost options in the development of information communication technology (ICT) infrastructure. Other software, such as Citrix, that enables different computers to work together, is likely to be important in smaller communities and/or developing countries (Farrell 2001; 2003). Similar possibilities may need to be explored to help health-care managers, particularly those in remote areas of the province, in accessing e-learning opportunities.



Bandwidth may be a fading issue for learners as many countries are upgrading their broadband capabilities. In British Columbia, the Premier's Technology Council originally anticipated that by the end of 2003, broadband service would be available to eighty percent of the province's population, living in one hundred and fifty of the three hundred and sixty-one communities in the province. The remaining twenty percent of the population, scattered in over two hundred communities would represent the 'Digital Divide' – those without broadband and therefore without access to the many programs and services it enables, such as e-learning, e-health and e-government (2004:1). Health-care managers residing in this 'Digital Divide' area may encounter access problems until their Internet bandwidth is upgraded or until technical advancements (i.e. wireless communications) improves their access. While learning technologies are improving, problems may still remain for some learners especially in a province as large as British Columbia. However, access itself may not be the entire problem.

The mere presence of a computer and Internet connection, whether at a workstation or at home, does not necessarily assure technological literacy. In Germany technological literacy is called 'media competence' while Britain refers to it as 'network literacy'(1998:5). In Canada, a Ryerson Polytechnical University report makes it clear that many students overestimate their computer and Internet skills and recommends that an orientation program be given to students before undertaking research or e-learning assignments (1998:109). It is not simply the expertise of using a computer and the Internet effectively that needs to be evaluated, Reddick, Boucher et al. insist that reading and writing skills come into play as well for the understanding and retention of e-learning material (Reddick, Boucher et al. 2003:1). Before e-learning can be undertaken for health-care managers it may be necessary to ascertain the technical skill level of the learners. This point will be examined further in chapter eight.

The technical literacy of educators is perhaps another issue which may not receive as much attention as it deserves. Rossman believes that "technology will not improve learning until educators also begin to transform technology" (Rossman 2003:8). Markanen underscores and expands this assertion by noting:

Because a high level of interactivity is required for action strategies, creating them for the Web generally requires more advanced technical skills, such as Java programming. As a result, many instructors prefer to select existing activities for inclusion in their courses, rather than design them (Markanen 1999:27).

If educators and/or tutors are expected to be information communication technology (ICT) specialists for students, then their technical skills need to be reassessed and strengthened, particularly since the upcoming generations of learners are expected to be much more technically

sophisticated. According to Tello, any educator deficiencies in the knowledge and skills to design and teach e-learning programs have an effect on student retention (Tello 2002). With this in mind, the ASTD recommends that:

In an e-learning environment, educators must have a detailed understanding of various technologies, comprehensive knowledge about available content and service providers, and the support skills that are critical to facilitating learners' success (2001:20).

Thus, technology may be a potential problem for some health-care managers whether studying from work or home. Technological support for learning will also need to be considered if e-learning is to be effective. To understand how health-care managers view e-learning, data will be gathered and presented in chapter six and analyzed in chapter eight. The purpose of this data will be to find out if the acceptance of e-learning and access to technology is the same in British Columbia.

The material in this section has shown that health reform has stimulated a reexamination of the learning environment of health-care managers. Like other adult learners, health-care managers are motivated to learn but require quality opportunities and services that are 'fast, flawless and convenient' and recognize the time constraints and financial strain of the learner. Health-care managers, who in many instances already have postgraduate qualifications, now require new skills in order to keep pace with health reform. Whether they need a new management qualification is uncertain, but health management courses must be designed to meet the current reengineered environment of the health industry and be tailored to the individual manager's learning needs. In addition, the concept of managers learning from managers needs to be more fully studied. Increased credit for experience and other learning also needs to be examined in light of the current lifelong learning philosophy. Improving access to learning will remain a concern for many managers especially those in rural and remote regions of the province and those unable to leave their positions to attend classroom delivered courses. While the challenges of motivation, competencies and credit are important, the biggest challenges facing many health-care managers may still be increased workloads and organizational support. Since e-learning has been introduced into many organizations to address time and distance learning issues for adult learners, the question in this study will be to determine if this is a viable option for health-care managers. Having reviewed some of the learning challenges health-care managers face today, it is time to examine what health management educational resources are available to meet their learning needs.

## 4.5 Health management education in British Columbia

The need for well-trained managers in the health industry is similar to other industries. The educational resources available to health-care managers in British Columbia come from two sources; their own health authority or higher education. The information in this section will show that management education in the health authorities has been mainly concentrated on senior managers leaving the majority of managers with fewer options. Prior to reform, health-care managers simply voiced their desire to attend an educational course within their health organization and because of a surfeit of managers could easily leave their positions. The post-reform environment with funding restrictions and managers with little back-up presented managers with more skill-training difficulties. The situation in rural and remote communities was more pronounced. In addition, many managers were hesitant to taking educational leave or risk their own personal funds at a time of job insecurity<sup>2</sup>. The health management educational opportunities available through the health authorities will be presented in more detail in 4.5.1.

Access to higher education favour senior health-care managers as some health authorities paid a portion of their postgraduate costs. Lower level managers were usually left to their own resources for such education, a difficult problem in light of the instability of their working environment. In addition, frontline managers had difficulty with the postgraduate on-campus requirement as they found it much harder getting time away from their positions following health reform. Further, health-care managers found limited health industry specific learning opportunities, particularly directed at managing a changing complex service organization. To better understand these issues the health management educational opportunities available through higher education will be presented in more detail in 4.5.2 and 4.5.3.

While higher education has made many changes in their programs to accommodate the adult learner, more changes may be needed. For example, the modularization of course content has allowed the adult learner to move in and out of study programs and institutions, build their degrees from a number of self-contained modules, and provides greater flexibility. However, even this innovation is now being redesigned. In recent years, smaller modular learning units have been introduced, referred to as 'bumper-sticker sized bits of information'; 'chunks' of learning, 'adult-learning sized bites'. India has even considered 'skillette' type modules of no more than thirty minutes of instruction covering one specific and usable unit of education or training (Mitra 2003:21). While smaller units of learning may best fit the needs of a busy manager, some regard

---

2. A similar cost barrier to learning for health-care managers was also identified by the Australian College of Health Service Executives (Dennis 2002:8) and in an Australian/New Zealand survey (Harris, Maddern et al. 1998:6).

this trend as a slippery path to a deterioration in educational quality. Duke argues that part of the resistance to modularizing academic programs stems from the fear that learners will become academically lost, like disoriented consumers of poorly matched baskets of goodies from the supermarket shelves. Others see modularization as detracting from the sustained, sequential, disciplined study of an academic discipline (Duke 1992). Yet, further modularization may be necessary if learning is to adapt to the needs of rapidly changing organizations. This will be discussed again in chapter eight. At this point, it is important to know what learning opportunities are currently available through the health authorities and higher education. Health Authority health management education

#### **4.5.1 Health Authority health management education**

In British Columbia each health authority has its own management education initiative, with considerable variation among the health authorities. The following brief descriptions of the management educational offerings in the health authorities are presented in priority with the first two, Vancouver Island Health Authority (VIHA) and Interior Health Authority (IHA), having the best health management education programs. The Fraser Health Authority, Provincial Health Services Authority, Vancouver Coastal Health Authority and the Northern Health Authority have less defined management educational programs for their health-care managers.

The *Vancouver Island Health Authority (VIHA)* established a 'Centre of Excellence in Learning' in 2001 at the time of the creation of the new health region. The centre's educational programs are open to all VIHA employees and of the six categories of educational programs, three of importance to managers are: Leadership and Management Development, Organizational Development, and Technical and Computer Skills. To understand the type of management education focus of the leadership programs at VIHA I have made a comparison (Refer to Table 4.1 on p. 106) using the competencies selected for this study.

Table 4.1 shows that VIHA's management education focus has been mainly on people skills concentrating on such topics as communication skills, change management, leadership skills, conflict management and human resources. While change management is identified in a number of areas, it is mainly on coping with change not in managing a changing complex service organization. There is also no evidence that managers are being assisted in how to manage an ongoing, escalating, reduction of resources in meeting increased service demands. In the Leadership and Development Level 1 program, Finances and Decision Support and Risk Management courses are only for specialty groups. In the Leadership and Development Level 2 program, the Project Management course is optional. Faculty were aware some managers have

problems accessing courses but were unable to provide other options. No e-learning is being considered, all programs are provided in a classroom format.

**Table 4.1 A Comparison of Research Competencies & VIHA Management Programs**

Research Competencies	VIHA Management Education Programs		
	Course Topics	Online	Program
	New Leader Orientation	Internet description of course	<b>Leadership &amp; Development : Level 1</b>
	Foundations of Management & Leadership in VIHA	Internet description of course	
Communications	Myers-Briggs Type Indicator (MBTI) Step 2, topics include; Increasing self awareness, Differences in people, Expressing your personality & How you communicate	Internet description of courses + Online self assessment	
*Financial Analysis *Human Resource Management	Navigating the Organization Conferences, topics include; Human Resources, Finance & Decision Support & Services & Supports		
* Change *Human Resource Management *Quality Improvement	Leader Resources on the Internet with topics as: Change & Transition, Hiring & Orienting New Staff, New Thinking & Systems Thinking, Occupational Health & Safety, Performance Management & Quality Improvement	Internet description of courses plus: Change & Transition tool kit, Change Management Toolkit, Guidelines for managing Displacement, Core Competencies, Combined Self-Assessment & Manager Feedback Tool & Self-Assessment Manager/Supervisor	<b>Leadership &amp; Development: Level 2</b>
Communications	Interpersonal Communications: proactive listening & feedback	Internet description of courses	
Conflict Management	Conflict Management	Internet description of courses	
Human resource Management	Performance Management focused on: Performance Expectations, Coaching, Performance review, Giving Recognition, Managing difficult behaviour, Taking corrective action & Working with teams	Internet description of courses	
*Change *Project Management	Change & Transition focused on: Managing change & Transition, Using the tool kit, MBTI & Change, Strategies for navigating change, Project Management (Basic) & MS Project (Elective)	Internet description of course	
*Leadership Skills	Laying the Foundation focused on: Orientation to MBTI (Leadership Competencies); Debrief Session, Optional Coaching Session & Defining Leadership	Internet description of course	<b>Leadership &amp; Development: Level 3</b> <i>"Leading in a Learning Organization (LILO)"</i>  * 9 months *Royal Roads University Collaboration
	Clarifying Aspirations focused on: VIHA as a Learning Organization, Personal Mastery Introduction & Integrating Learning	Internet description of courses	
*Communications *Complexity	Dealing with Complexity focused on: Systems Thinking & Improving Conversations	Internet description of courses	
	Creating Shared Vision focused on: The Synergy of Shared Vision, Creating a Shared Vision, Incorporation Learning into Leadership	Internet description of courses	
	LILO Program Electives including: Appreciative Inquiry, Inner Quality Management, Systems Thinking Learning Group	Internet description of courses	

Computer skill training includes Word and Excel basic and upgrade programs, and a human resource scheduling program but there is no record as to what standard is required for managers

nor what level managers have attained. A self-assessment online educational tool exists but there is no follow-up to know the quantity or quality of use. A web site called a 'Leader Orientation Guide' exists for new managers containing information on the health authority and for new employees, the role of the manager, change and transition and managing human resources. The amount of information on this web site exceeds that found on any other health authority web site but with no follow-up it is unclear how this information is utilized.

VIHA formed one of the earliest partnerships with higher education, working with Royal Roads University to establish their Leadership and Development: Level 3 program which grants the learner some academic credit towards a master's level qualification in Leadership and Training. The health authority also has a scholarship program for managers which provides five hundred dollars per year towards postgraduate education. The remainder of the university cost is paid by the manager.

VIHA has offered leadership courses since 2001. There is no tailoring of the leadership courses to specific divisions or individuals. While VIHA has shown an ability to create an effective leadership program and are prepared to reexamine their programs, the underlying question will be whether or not other management topics, greater choice and e-learning will be given any consideration in light of funding and resource limitations. There are no immediate plans for e-learning development.

The *Interior Health Authority (IHA)* is in the early stages of its management educational program development. The current management educational program has two parts: (a) the first part is a senior management coaching initiative provided through an external coaching service, with coaches who are considered 'seasoned' industry/business executives in Canada/USA at a senior level in non-profit organizations. Senior IHA managers are matched with an external coach following a self-assessment of their learning needs. This "just-in-time" coaching is considered flexible for busy schedules. The program began in April of 2004 and, to date, has no published evaluation. It is anticipated that once these senior managers complete their coaching experience, they will become mentors to the next management level. What remains unclear is how these senior managers with large portfolios of their own will find the time to mentor other managers, or whether managers in a direct line position will feel comfortable with such a mentor relationship. (b) The second part of the management educational program is a web-based program for directors and senior managers containing the emotional/ intellectual competency expectations. Technical/business competencies are expected to be identified by 2005. The emotional/intellectual competencies identified by IHA are: Self Awareness (i.e. emotional self-awareness, accurate self-assessment and self-confidence); Self Management (i.e. self-control,

trustworthiness, conscientiousness, adaptability, achievement orientation, initiative, and innovativeness); Social Awareness (i.e. empathy, organization awareness, service orientation, leveraging diversity, and political awareness); Social Skills (i.e. leadership, developing others, influence, communication, change catalyst, conflict management, building bonds and teamwork and collaboration); and Technical Competence. These emotional/intellectual competencies have been loaded into a self-learning software program which managers can access. There is no instructor input or follow-up to this process. Managers are expected to use the program to identify their personal competency gaps. Expectedly, in time, such gaps will be discussed with their assigned mentor (i.e. one of the senior coaching graduates noted above). The mentor and senior manager can then communicate by telephone or e-mail, since a face-to-face meeting is not imperative, to discuss how the manager will address any competency gaps. Since this program is dependent on the outcome of the senior management coaching program its effectiveness is still unproven.

In October 2004, IHA launched a new leadership plan for senior managers called 'Pathways to Leadership' in collaboration with Royal Roads University to create a health management educational program which would address such issues as: compensation performance management, change management, professional development, cultural development, Ministry of Health Services performance contract, strategic planning, information systems, financial practices and health delivery practices. The intent of this new program is to provide senior managers with higher education credit towards higher qualifications. The plan is to educate thirty-six to forty senior managers per year (including physicians) with the aim of reaching one hundred and fifty managers in four years. Discussions are still underway and the details of the program or outcome measures are not yet available. There is no indication that this program will be open to other management levels.

Classroom delivered, in-service management programs do exist on current topics of importance (i.e. budgeting, health reform, change management) for all other managers below the senior level. However if managers cannot attend these courses, there is no follow-up. For example, one thousand positions were made available for one management course and only two hundred managers applied. There was no information as to why the other eight hundred could not attend nor how they might acquire the information other than through the classroom delivered course. New managers have the option of attending a 'Transitioning to Management' course, at the local Okanagan College/University, a partner with the IHA. This course is a basic introduction to management and discusses whether the individual is suited to the management role. The course is for managers in any business/industry and is not health industry specific. Another management course, unique to IHA, is a labor relations program created in the health authority when it was

discovered that union stewards in the region were receiving over forty hours of training compared to almost no training for IH managers. In general, the educational opportunities for the majority of managers below the senior level remain ad hoc, focused on operational necessities and are all classroom delivered. No e-learning is currently being planned. One senior educator stated the authority would like to progress to e-learning skill development but feels managers need to first develop their technical skills for such learning.

A web site for managers (i.e. IH Net) provides information on such topics as: patient information, management orientation checklist, 'just-in-time' information and templates, and articles focusing on certain issues. Like VIHA there is no follow-up as to whether managers access this site or how the information is used. In the same manner, a web-site orientation program exists for managers but there is no follow-up except an expressed interest by educators that a one-day follow-up, classroom delivered, workshop is needed.

IHA management educational approach has mainly focused on senior managers coaching and mentoring with a sprinkling of other courses and support services for other managers. The major push for a senior management educational program (for managers and physicians) at a master's level is intended to broaden and expand management education to address topics specific to the operations of a health service. The managers below the senior level are left with limited options and a less structured educational path. There are no immediate plans for e-learning development.

The *Fraser Health Authority (FHA)* introduced the 'Learning Model for Leadership Development' as an in-service program. This program has four divisions: (a) Increasing Organization Effectiveness including such courses as working in partnership, appreciative inquiry, consultation for re-design, and collaborative change; (b) Building Personal Resilience including such courses as inner quality management, people skills for a respectful workplace, and instructional skills; (c) Enhancing Team/Unit/Department Effectiveness including such courses as supervisory skills, conflict resolution and team skills; and (d) Developing Leadership Capacity including such courses as leading for engagement and management conference. According to the education director, the main focus is on emotional/intelligent topics such as communications, new strategies in dealing with change and change management. These courses appear to be open to all managers who are able to attend. There are no plans to make any changes in the leadership program to include corporate or business topics. While ad hoc reform-based topics (i.e. finances, policy/service changes etc.) would be expected for managers below the senior ranks, there was no evidence of this in my discussions with the education director. There is also no evidence that education support web-sites or e-learning are under consideration for managers.



For senior managers seeking higher qualification, FHA provides some financial support for a number of senior managers each year to take the Royal Roads University ‘Leadership and Training Program’. There is no evidence that any evaluation is carried out on the value of this education for the health authority.

FHA management education focus is mainly on senior managers with other managers able to attend if they can make the necessary arrangements within their divisions. The leadership focus is primarily on people skills with no immediate plans for change. There are fewer additional educational support services in this health authority than those found in the previous two health authorities. All education is classroom delivered and there are no plans for e-learning.

The *Provincial Health Services Authority (PHSA)* took over two years to get reorganized after the 2001 reform process because of the complexities of province-wide services and jurisdictional issues. Different than the above three health authorities, this health authority has concentrated its management education efforts on middle managers. The leadership series of courses consists of four sessions of four hours each provided by an external educator. The topics covered are: ‘Creating a Foundation’ (i.e. sharing responsibility and communication and interaction skills); ‘Building Trust’ (i.e. working and leading in teams, coaching staff, introducing change, and helping others adjust to change); ‘Adapting to Change’ (i.e. the ability as a leader to adapt and manage the challenging aspects of change while maintaining effectiveness); and ‘Communicating with Others’ (i.e. communicating across all departments and organizational levels and overcoming communication barriers). The focus is mainly on relationships and human resources. Consistent with this focus are workshops which have addressed such topics as: time management, managing the hard to handle employee, performance management, interviewing and human rights. One course on financial management, mainly on PHSA budgeting, was developed internally. The director of education would like to expand the educational opportunities but funding is an issue. Currently, all management education is classroom delivered.

In addition, each year PHSA provides partial sponsorship for a number of senior managers to attend Royal Roads University master’s program on Leadership and Training. There is no evidence that this educational initiative has any evaluation process as to its value to the organization.

PHSA management courses mainly focus on human relationships and resources. Senior managers have some support for higher qualification studies. It is evident that getting managers to classroom delivered programs is currently a problem and senior management remains skeptical if e-learning programs would be utilized by busy frontline managers. No e-learning is currently being considered.

The *Vancouver Coastal Health Authority (VCHA)*, the health authority with the greatest number of human resources, has the least organized management education program. About twenty-four senior managers are funded each year to attend the Royal Roads University master's education program in Leadership and Training. No evaluation is evident in this educational initiative. In-house management programs are ad hoc focusing on such topics as communication, orientation, budgeting and reform change. All courses are classroom delivered. Finance programs, when available, are focused on budget preparation and fiscal planning.

One experiment in management education was carried out in November 2003. Eight hundred managers were invited to participate in a SkillSoft e-learning program, consisting of twenty-nine topics. Only one hundred managers participated. Managers were expected to review these topics on their work computers if time permitted. This was an expensive service of non-health management topics. Nevertheless, the web site had some good general material on such topics as: leading from the frontline, going from management to leadership, moving from technical professional level to management, how to overcome negativity in the workplace and many more topics. No evaluation was carried out as to how many managers actually utilized the web site nor what value these topics had in their health service area. The continuation of this experiment seems to be on hold.

The education director indicated that there have been discussions on upgrading management skills in such areas as: communications, project management, people skills (team building), strategic planning, and working with staff particularly with regard to downsizing, change and cost savings, but that lack of funding and senior management support has held back development. However, in recent months the education director has received a new mandate to redesign the management education program.

VCHA retains an ad hoc management education strategy which appears to be both limited and costly. A needs assessment has not been done nor has there been any evaluation of the experimental web-based program nor on those attending the Royal Roads masters program. The health authority appears to have a strong interest in expanding their management education offerings but only time will tell how this evolves.

The *Northern Health Authority (NHA)* management education is mainly ad hoc with periodic programs provided on such topics as finance, change management or project management. The health authority is in the process of considering a new management/leadership program on such topics as: communication skills, working in relationships, building teams, developing others, solving problems, making decisions, getting results, strategic thinking and planning, managing and leading change, leading self, managing financial resources. If this leadership program

becomes a reality then this health authority may have a more balanced curriculum. However, funding realities will play a very strong part in this planning as this is the region with the lowest population and greatest geographical issues.

In summary, the information on health authority educational opportunities shows that leadership education is mainly viewed as the prerogative of senior managers. In-service health management education, where it exists, is focused on emotional/intellectual competencies or topics such as communications, human relations, change management, and resources. Running a complex service organization and dealing with community, political groups and diversity are not current educational topics in any of the six health authorities. Partnerships with higher education are evident in four health authorities with initial discussions reported in the other two. Evaluation of such postgraduate education to assure value for money has not been done. One health authority is considering physicians in their management educational planning, a new trend. Educational planning and courses for lower management levels is limited. Classroom delivery is the dominant delivery format and e-learning, if considered at all, is only touched upon as a peripheral tool for distributing information. Too few managers are getting access to much-needed education. How health-care managers view such educational opportunities will be examined in the survey, interviews and discussions of this study. Having found that the health authorities had limited educational opportunities for the quantity of managers needing education, the expectation was that higher education would be better positioned to meet this new learning challenge. The following information shows that this is not the case.

#### **4.5.2 Higher Education health management education**

The material in this section will show that there are few health management education programs in the province of British Columbia. While general management education opportunities exist the course content needs to be adapted to the health industry to benefit health-care managers. In the past health-care managers accepted the fact that they had to adapt general management theories and processes to their work setting, but their reformed working environment provides little time for such adaptation. An overview of management education courses at the different higher education institutions in British Columbia is provided in Appendix C. The appendix material is presented in priority starting with the health management education courses. The following material focuses on current health management educational programs in three higher educational institutions (i.e. The British Columbia Institute of Technology, Malaspina University-College, and Royal Roads University). The material is presented in priority.

*The British Columbia Institute of Technology (BCIT)* has had a reputation for being on the leading edge of providing practical educational programs, many by e-learning. It has the strongest

health industry specific programs in the province, and its e-learning courses can be taken separately or within an official program. BCIT currently has over six hundred e-learning programs. The following is a brief description of four health industry specific programs for managers.

The ‘Bachelor of Technology in Management’ program with a health specialty has existed for five years. This e-learning course is competency based (i.e. the learner must prove their competency before receiving credit) with course work and assignment papers. The learner works with both a BCIT coach as well as a worksite coach. This program is favoured by those in Information Technology or those involved with knowledge management but the topics covered could equally benefit other health-care managers. However, it is unlikely managers not in information technology would apply for this program. The e-learning nature of this course makes it more accessible to many managers, and the topics covered have health industry and operational focus. There is also an advanced specialty certificate in Health Informatics Technology Management which is also favoured by those in Information Management positions within the health industry.

The ‘Level 1 and 2, Certificate in Health Care Management’ programs have been available for the past twenty years, moving from a correspondence to a distance learning format. There are about fifty students per year, but this figure varies as students, in pacing their learning, may take from two to five years to complete the program. Learners are mainly from British Columbia’s health industry, many in their first management position. In Level 1, courses are focused on human relations, while in Level 2 the emphasis is on information systems, health care law, and quality management. No specific course deals with how to delivery health services in a complex industry. Two courses within the program have moved to an e-learning format, but the majority of the program remains in a distance learning, paper-based format.

The ‘Certificate Program in Health Care Quality Management’ has been available for two years and is a program of interest to those working in quality improvement. About ten learners take the program each year. The material is available in an e-learning format. This is a single topic program and may not attract a larger health care management group.

As of July 2004, BCIT has entered into partnership with Royal Roads University to offer a joint ‘Masters Degree in Health Care Leadership and Management’ This program was suppose to start in the Fall of 2004 although, to date (i.e Summer 2005), it has not started. The plan is to accept forty to sixty frontline and middle managers per year, fifty percent from British Columbia and fifty percent from the western Canadian provinces. The twenty-three calendar month program, is to follow a blended (e-learning and face-to-face), cohort-based model of learning with

e-learning courses and two three-week, face-to-face residencies concluding with a final one-week residency. The courses are mainly focused on behavioural sciences, resource management, change and leadership. There is an Applied Research for Leaders course in which action research is the focus. There is one course specific to Health Care Systems and Organizations and, one course ‘Foundations of Management’, is expected to deal with finances, ethical and quality management issues. In-depth service delivery topics are not evident in the initial planning documents. In addition, there is no reference to the backfill costs for health authorities in managing seven weeks of face-to-face residencies for their middle managers, a factor which has proven to be a problem even with short-term courses in the health authorities.

While BCIT has the strongest health specific programs, and its new partnership with Royal Roads University is positive, the courses are still not strong on practical service delivery topics. The newly planned Master’s program residency requirement of seven weeks may prove to be a barrier for many middle and certainly frontline managers. Only the technical and quality management programs are in an e-learning format and these would not likely be the first choice of most health-care managers. The other programs remain in a distance education, paper-based format. The main advantage of BCIT courses is that learners can take one course at a time building towards a higher qualification. To date, the new partnership between BCIT and Royal Roads University is still in its developmental stage and its future remains untested.

*Malaspina University-College* has one health management program which is a diploma program on ‘Continuing Health Care Administration’. This paper-based distance learning program has been in existence since 1989 and is designed for those working as managers in community health programs (public or private) in British Columbia. The number of students per year vary as learners pace themselves over a two to five year period. While the program focuses on human resources and gerontology, it also addresses health care issues, accounting and quality assurance. There are no plans to expand this diploma program to address service delivery issues in hospitals (i.e. acute care) or other areas in the health industry, nor are there plans for moving the course to an e-learning format.

*Royal Roads University*, ‘Master of Arts in Leadership and Training’ is the most popular postgraduate program for corporate/senior health-care managers. This program, started in 2000 for about thirty students per year, is not specifically designed for health-care managers but aimed at mid-career professionals with at least five years of supervisory experience and employed in medium to large corporations, health organizations, crown organizations and/or provincial and federal agencies/governments. The university insists that the program can be tailored to the organization, however this customization occurs primarily in the selection of the project which

each learner is expected to complete. This is a two-year program with course assignments managed through an e-learning format, seven weeks of residency and an action-learning project. It is classified as self-directed learning and competency-based. It is unclear how the competency of graduates is measured or assured.

The health authorities are encouraged to send more than one manager to this program at a time, as an opportunity for team building through the learning process. One health authority has sent twenty or more senior managers in one year; other health authorities may send two to four managers, at a cost of \$10,500 per year per student. There has been no research as to whether this educational cost to the health organization has proven effective with regards to service delivery, management effectiveness or the creation of innovative measures in addressing health reform issues.

The course content is a mix of behavioural science, human resources, change, learning and leadership topics. Courses in evidence-based management, managing complex health service issues, managing a number of projects with different deadlines and reduced resources, or in-depth financial analysis are not evident in any of the course descriptions. Graduate competencies to be work-ready for managing a complex service industry are not evident from the literature provided or through discussion with faculty.

The information on higher educational institutions shows that the number of health management education courses and/or degree programs for health-care managers are limited in British Columbia. There are no e-learning educational programs through the health authorities and only BCIT provides a few courses in higher education. Royal Roads University uses an e-learning format but only as part of its master's degree program. With the master level programs having a seven week residency requirement, managers in positions where backfill cost is required or where time is at a premium, may have difficulties in meeting this requirement. Even if the newly planned master level programs come on stream, student enrollment per year is still low considering the thousands of health-care managers in the industry. Course content is still addressing top-level management issues without giving managers practical skills to manage a changing and complex industry. In addition, higher education still offers a 'one-size-fits-all' educational format with the tailored portion of the learning experience being a single health industry project. While major steps have been taken to increase the number of master's qualification routes for senior managers, little is being done for the largest percentage of managers. Learning opportunities and e-learning limitations in both the health authority and higher education appear to leave many managers with few choices in achieving their learning goals. In chapters five to eight data will be collected and analyzed as to how health-care managers

view such learning opportunities. If learning opportunities are limited in British Columbia, do health-care managers have any other options?

#### **4.5.3 Other management/health management programs**

The closeness of British Columbia to several of the American states (i.e. Washington, Oregon and California) opens a large network of possible e-learning programs. For example the Internet presents several management programs based in the following American institutions: Baker College, Berkley College, Bethel University, The Colorado Technical University, Ellis College of NYIT, Florida Metropolitan University, Kaplan College, and many more. There is little evidence that such programs are heavily utilized by health-care managers in British Columbia, as the traditional route for most managers is to seek a local educational provider. Other Canadian provinces also offer management educational programs, but this out-of-province route is not used for the same reason as the international options. There is no research to show what percentage of health-care managers are pursuing continuing education or postgraduate studies in other provinces or other countries but the assumption would be that the numbers are low. But for those interested, other jurisdictions have been developing new health management education options, concepts which may be of interest to the health industry in British Columbia.

One innovative approach in educating health-care managers can be found in Quebec. McGill University has introduced an International Masters in Practicing Management (IMPM) program to prepare health-care managers to cope with existing conditions in their organizations as well as effecting change in the face of difficult, economic, social and political realities. This program is also focused on senior managers and is relatively new (cited in Reingold 2000:4).

Another recent trend is the development of health corporate universities which have sprung up in the United States with private health corporations. The concept within these corporate universities is also that 'managers learn best at work'(Meister 1998). Two examples of this concept are the University of Chicago Hospital (UCH) in Illinois, and the Baptist University in Pensacola, Florida. The UCH was established in 1992 as the first health corporate university in the United States for nine thousand employees (Meister 1998). It supports over thirty thousand course enrolments a year and in 2000 a wide range of academy-initiated learning tools were made available to all employees. Its health management and leadership offerings include a wide range of courses on such topics as: frontline leadership, performance management, leading through diversity, resiliency, coaching, project management, and financial management (2004:7 to 10).

The Baptist University in Florida was also established in 2000 as a corporate university in a health care setting serving the learning needs of the Baptist Health System. The university operates two

institutes: (1) Leadership Development Institute which offers courses for team leaders and managers on such topics as: The Business of Baptist , healthcare finances and budgeting, skills assessment, and human resource leadership; (2) Staff Development Institute which has four colleges: The College of Professional Practice, the College of Advanced Practice, The College of Patient Care Support, and The Senior Health Professional (2004). According to Dresner, the corporate universities (CUs) can offer a wide range of blended and e-learning courses through their virtual university but the major issue facing these health corporate universities (CUs) is:

....the range of material that can and should be offered to a population that varies from upper graduate level physicians to entry level clerks and orderlies. CUs in teaching hospitals often are tasked with orientation of new residents and interns , and some are responsible for other aspects of their clinical education as well (Dresner 2005:4).

The course offerings are designed to fit the health organization providing both employees and managers with a variety of educational opportunities focused on health service delivery. The corporate university idea is a means of integrating the health organization's education, including leadership training, and giving such education a higher profile within the industry.

A corporate university approach more suited to the publicly funded health industry of British Columbia, was the National Health Services University (NHSU) proposed in Britain. The lifelong learning intent of the NHSU was to “develop the talents, skills, capacity, commitment, achievements and expertise of the million plus people who work for the NHS, as well as those engaged as patients, clients, carers, volunteers and supporters “(2003:3). This public corporate university concept, launched in 2003, was to be “a radical change and improvement in health and social care through the transformation of learning” as the NHS shifted to focus on a “patient-centered, team-based, multi-professional, outcome driven, evidence-based, de-centralized service providing more choice and greater accountability to the public”(Taylor 2004), similar to features being contemplated in the health reform of British Columbia.

Taylor noted that the rise of corporate universities emerged from the need to have a workforce with the skills and flexibility to match the new service model. A different approach to learning was needed to concentrate on teams of people rather than supporting the uni-professional and uni-disciplinary training of the past. The focus was to be on skills enhancement, capacity and personal development through greater learner engagement, wider participation, new modes of learning, and higher levels of learner attainment, achievement and progression. The NHSU had eight key principles which were: access (available to everyone in the NHS), relevance (designed to secure benefit for patients, staff and health improvement), choice (delivered in ways to suit the learner),



equity (to tackle the barriers to fair opportunity and inclusive learning, multi-professional and inter-disciplinary, working with others to achieve the objectives and a commitment to quality (2003:9 to 21). Other concepts being considered were: portable qualifications, course credit towards a degree, recognition of prior experience, modular structure, senior managers as mentors, tele-tutorial service, high-quality support for learners, and use of real workplace problems. (2003:13). Initially the underlying learning concepts and ideas were welcomed and appeared to be well supported. However, a year after the opening announcement, the NHSU concept was scrapped by the British government. Snook contends that the demise of the NHSU was due to a “combination of bad luck, lack of clear focus and unhelpful interventions of third parties”(Snook 2005:4). Management education, which was to be a part of the NHSU concept, has continued within the NHS under the NHS Leadership Centre which was established in 2001. The underlying principles to integrate health industry learning was a good idea even if this initial effort in Britain did not reach fruition.

The information shows that new concepts are emerging on how to design a health industry learning environment with such concepts as: the integration of all learning focused on quality patient care, a multi-disciplinary and team oriented approach to learning, and, managers learning from other managers. Such integration would mean that management education may be designed as a continuum of learning irrespective of institution. These ideas will be again examined in more detail in chapters seven and eight.

#### **4.6 Conclusion**

Health reform in British Columbia has introduced new learning challenges for health-care managers creating an environment where learning opportunities are not keeping pace with change. Without an overall plan, each health authority has its own health management educational plan which varies in structure and content. Dialogue between the health authorities and higher education is ongoing with a continuation of a very traditional learning strategy. The health authority favour a classroom delivery format with little e-learning. Whereas e-learning in higher education is slowly evolving, but the process is slow. Educational opportunities in both learning environments still retains a ‘one-size-fits-all’ design with limited tailoring of the process for individual learning needs. The focus of health management education is focused mainly on senior managers leaving the vast majority of managers with few options. Little research is available on website information resources, expensive postgraduate education, or other aspects of health-care management education.

Higher education also offers few health management educational opportunities for managers, particularly in upgrading skills in managing a complex and changing service industry. The curriculum remains at an executive level, providing limited detailed management skills for today's shifting health issues. Whether managers can be educated better within their own industry is still unclear, but innovation and greater educational integration will be needed if the best leaders are to be educated for the industry.

Health-care manager as an adult learner face ongoing time and cost issues and seek no-frill, educational opportunities and services that address realistic management problems. An educational plan is needed that clearly defines the responsibilities of both the learner and organization, assures them of equitable credit for their experience and learning, and allows them easy access to a variety of learning options. Without an educational strategy, learners and organizations remain uncertain over the expenditure of educational resources and the time given to such learning. What is evident is that learning methods designed to address the learning needs of the past are no longer working at a time when the need for health management education has escalated. E-learning, familiar to many industries, is a possible option for health-care managers and will be explored more fully in chapter eight.

The first three chapters shows how health reform has changed the health industry, how new complexities and challenges have pressed health-care managers to seek new skills, and how the current health management educational opportunities are not meeting this learning need. The learning crisis for health-care managers will not evaporate with time as health reform is expected to continue and will continue to escalate the learning needs of health leaders. The information to this point has explained what is known, chapters five to nine will explore what my research has discovered.

## Chapter 5

### Methodology

---

*The important thing is not to stop questioning.*

-Albert Einstein

#### 5.1 Introduction

This chapter describes the methodology, issues and core assumptions relating to the design of my research. It includes an outline of how the data collection from three sources (survey, interviews and health industry stakeholder feedback), procedures used in data analysis, and validity and reliability strategies. My research strategy assumed that the perspective of health-care managers on their professional development was essential, both for understanding the management skills needed in today's changing health industry and obtaining information on how education aimed at producing these skills could be delivered. In providing a comprehensive description of my research methodology, this chapter links the previous chapters to the research findings and analysis presented in chapters six to eight.

My research on the education of health-care managers is described as social science research. According to Judd, Smith et al., social science research “borrows the logic of physical science but uses different research methods because the objects being studied are not inert but sentient beings with interpersonal or social relations”. Different methods used in such research provide a more complete description of the social issue (Judd, Smith et al. 1991:4-6 & 322). Northey sees social scientists working with two types of measured data: quantitative and qualitative (Northey 2002:57). Casebeer and Verhoef describe quantitative research as “the numerical representation of manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect”. Such research is seen as beginning with the testing of a known theory by attempting to provide evidence for or against a pre-specified hypothesis. These writers note that quantitative research works from the general to the specific and is considered knowledge-driven. For them, when applying quantitative methods, numerical estimation and statistical inference from a sample is studied in relation to a larger “true” population of interest. Qualitative research is described by the same writers as the “non-numerical examination and interpretation of observations, for the purpose of discovering underlying meaning and patterns of relationships”.

According to Casebeer and Verhoef, such research begins by making observations usually in order to develop a new hypothesis or contribute new theory. In other words, it works from specific observations to broader generalizations and is considered feature-detecting. These writers see narrative description and constant comparison as being usually used in qualitative methods to understand the specific population or situation being studied (Casebeer and Verhoef 1997:2).

My strategy in this research was to use a mixed method with both quantitative and qualitative aspects, utilizing the data from both streams for analysis. By using different data collection methods my research achieves a depth of information which one method alone would not permit. In supporting this mixed-method approach, Casebeer and Verhoef suggest that instead of viewing these two research methods as an “either”, “or” situation, mixed research methods combine the two and argue that:

...it is possible and more instructive to see qualitative and quantitative methods as a part of a continuum of research techniques, all of which are appropriate depending on the research objective... Truly combined method approaches would purposely correct the study objectives and methodologies in the context of a single study or within a planned program of research in order to access a more comprehensive range of information and experience (Casebeer and Verhoef 1997:2 & 5).

In formulating a theory for social science research, Judd, Smith et al. identify three elements: the theory needs to contain constructs (phenomena) that are of theoretical interest; the theory describes relations among the constructs which may be causal, specifying which constructs exert effects on which others under varying conditions; and, the theory incorporates hypothesized relations or links between the theoretical constructs and, observable variables that can be used to measure the constructs. The authors stress that these links specify the behaviours or other indicators used to conduct empirical research and suggest that a useful theory is one that addresses some important or significant phenomenon or social behaviour at a particular historical moment (Judd, Smith et al. 1991:21-23). My research is productive social theory research in that it addresses a recognized change in learning needs for health-care managers following years of health reform in British Columbia, a socially significant phenomenon in the province’s health industry at this point in time.

In composing my research hypothesis the views of a number of writers were considered such as Judd, Smith et al. who state that “social relations research hypothesis concerns relationships between constructs (or phenomena) that have to do with human social behaviour” (Judd, Smith et al. 1991:7 & 10). Northey who sees a hypothesis as “a statement about presumed relationships between two or more variables which can be proved true or false, valid or invalid, by the

collection and analysis of data” (Northey 2002:34). The behaviour under examination in my research centers on processes for more effectively addressing the learning of new skills by health-care managers. Thus, my research hypothesis was:

That health-care managers, facing recurring organizational change, fiscal constraint, increased management demands and growing health industry complexity, need new educational options which are more responsive and flexible in meeting their lifelong learning needs.

Given this hypothesis, the key research questions are as follows:

- How might recent changes in the health industry have affected the learning needs and priorities of health-care managers?
- What factors might hinder attempts to meet any learning needs and priorities of health-care managers?
- What benefits might e-learning provide in overcoming hindrances to effective health management education?

The research objectives which follow from this hypothesis and research questions are:

- To show how health reform in British Columbia has created new skill demands for health-care managers;
- To identify the learning challenges of today’s health-care managers; and
- To consider whether some forms of e-learning may best meet the learning needs of health-care managers.

The research methods were designed to address these research questions and objectives.

The research methods (i.e. a web-based survey and interviews) were designed to meet the ethical guidelines for research prescribed by the university. The three ethical issues in my research were: protecting the rights of participants; making sure participants were fully informed; and protecting the privacy of participants. According to Trochim, the principle of voluntary participation require that “people not be coerced into participating in research” (Trochim 2002:1). In my research survey and interviews all participants were given the option of declining to participate. The survey participants could decline the offer of participating by not accessing the web-based survey. Interviewees could also decline to be interviewed. Through these arrangements the ethical principle that all participation was voluntary was met.

Closely linked to voluntary participation is the requirement for informed consent, described as follows by Trochim: “prospective research participants must be fully informed about the

procedures and risks involved in research and must give their consent to participate” (Trochim 2002:1). For my research this meant that survey and interview participants, were informed as to what my research was about, their time commitment, how the data would be used and how to contact me should they have any questions. In the survey, this information was included in all the e-mail communications and repeated on the first screen of the web-based survey. An e-mail consent form containing the same information was sent to each interviewee. In addition, the purpose of my research was officially communicated by letter to each of the health authority Chief Executive Officers who in turn communicated this information to their senior human resource and/or education managers.

With regard to research privacy, Trochim identified two standards: “confidentiality which assures the participants that identifying information will not be made available to anyone who is not directly involved in the study and, anonymity, a stricter standard, which essentially means that the participant will remain anonymous throughout the study, even to the researcher” (Trochim 2002:1). My research held to the stricter standard by assuring participant anonymity using several procedures. First, participant’s names were not known in advance of the research since all six health authorities had a policy which restricted access to group management e-mail addresses. Thus any contact with the health-care managers had to be arranged through a health authority representative, assuring participant anonymity prior and during the survey. Second, survey participants were informed in their e-mail invitation and in the first screen of the Web-based survey of the anonymous nature of the survey. The only identifier in the survey was the health authority through the participant’s work mailing address. Anonymity was addressed in a different way with those interviewed. It was agreed at the outset that the thesis would contain no direct interviewee quotes. They did agree to have their names listed in the appendix.

Throughout the research, all precautions were taken to ensure that the process was conducted in a professional manner. In my earliest contact with the health authorities, copies of my Curtin University of Technology research proposal and ethical approval were circulated for their review. Two health authorities (Vancouver Island Health Authority and the Northern Health Authority) had their own ethical research committees and required a further submission of forms and additional information prior to approving the research. Vancouver Island Health Authority Ethics Committee provided a written ethical approval. The Northern Health Authority Ethics Committee indicated the survey did not require their approval and the decision was left to the senior manager of human resources who agreed to proceed.

My research was strengthened by my adherence to these ethical norms, the public’s trust ensured, and I was able to address a number of fundamental ethical principles identified by

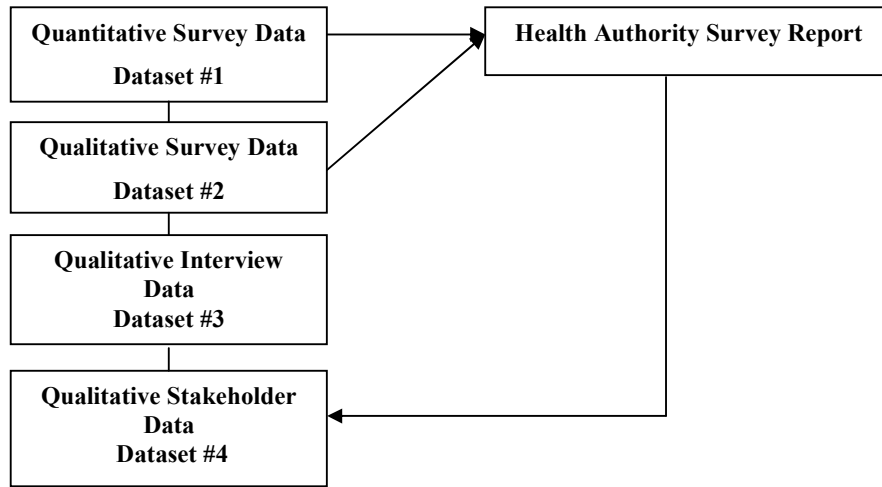
Resnik. The principle of promoting the aims of research ( e.g. knowledge, truth, and avoidance of error) by assuring quality in my data collection. The principle of promoting values that are essential to collaborative work (e.g. trust, accountability, mutual respect and fairness) by adhering to the guidelines for authorship, copyright, and confidentiality. The principle of ensuring that researchers are accountable to the public, whether or not they receive public funding, and by making sure that the findings of my survey were checked by health industry stakeholders. The principle of helping to build public support for research by making sure the quality and integrity of the research were addressed. Finally, the principle of promoting a variety of other moral and social values (e.g. social responsibility, human rights, and compliance with the law) by making sure my research adhered to safety guidelines for all participants (Resnik 2001:1 & 2). These ethical guidelines enabled me to obtain valuable research information while safeguarding the interests and rights of participants. Having established the parameters of my research, the material in the rest of the chapter will show how the research methods were incorporated in establishing the structure and data collection for my research.

## **5.2 Case Study**

The methodology used in this research is best described as a case study, where the health-care managers of British Columbia are defined as the case. This specific case consists of a multiplicity of factors which have interacted to produce the unique character of these managers, their current working environment, and the changed real-life situation (e.g. health reform demands new skills). To date, the intervention being investigated (e.g. e-learning) has had limited use by these health-care managers and this may make outcome analysis more challenging. My research involves people working within their regular environment. All health-care managers in this study were currently employed in the health industry at the time of the study. The ‘unit’ for the case study data is the health care manager in a designated management position within any one of the six health authorities in the province. Since there is no evidence that these combinations of variables (i.e. health reform, new management skill demands and e-learning) have been studied in recent years, this study will add to the body of knowledge on the effects of health-industry reform on managers and management education.

A multi-modal case study (2003:1) was chosen to address the objectives of my research, a method best suited for studying a complex system because it allowed me to capture the views of a number of managers. The multi-modal design, illustrated in Figure 5.1, involved data being collected through four sources: quantitative data through a web-based survey (Dataset #1), qualitative data through the same survey (Dataset #2), qualitative data through senior health-care

manager interviews (Dataset #3), and qualitative data through health industry stakeholders follow-up meetings (Dataset #4).



**Figure 5.1: Four Dataset Sources**

The case study method has sometimes been criticized on the grounds that generalizations made from the findings may not be widely applicable to real life. However, Stake argues that a more intuitive, empirically grounded generalization can be achieved based on the harmonious relationship between the reader’s experiences and the case study itself. Stake expected that the data generated by case studies would often resonate experientially with a broad cross-section of readers, thereby facilitating a greater understanding of the phenomenon (cited by Tellis 1997:2). It is the intent of my research that the data generated by the case study method will be of interest to a broad section of health-care leaders interested in knowing the effects of health reform on the skill needs of health-care managers and on how education may be delivered differently.

Selecting a case-study methodology seemed to best fit my research objectives. According to Tellis, case studies have been used extensively in government, evaluation situations (i.e. community-based prevention programs), education and in sociological studies (Tellis 1997:1 to 4). My research addresses three of these categories, education, sociology (i.e. the working environment) and government (i.e. the primary health industry funding agency). Haigh states that case studies are the preferred strategy when ‘how’, ‘what’, and ‘why’ questions are being asked; when the researcher has little control over the event; when the research is being carried out in a real life context or when a researcher needs to reveal the multiplicity of factors which have interacted to produce the unique character of the entity that is the subject of study. Haigh also found that case studies may involve description, explanation, evaluation and prediction (Haigh n.d.:1). My research complies well with these characteristics as the research questions address the



‘how’, and ‘what’. The researcher has little control in the selection of education strategies for health-care managers except by way of advice and/or recommendations to policymakers, and this research involves a real life situation where descriptions and explanations are prominent. In addressing the applications for a case study model used by Tellis, my research attempts to explain the complex causal links in real-life interventions between the health-care managers and the health industry; the links between education options and the current learning needs of such managers; and identifying a new path in addressing these learning needs (Tellis 1997:2).

Thus, the multi-modal case study method is appropriate to my research because the research questions posed were of the ‘how’ and ‘what’ nature; the focus of my research is on contemporary as opposed to historical events, and there was only a limited control over actual behavioural events. To address the research questions a mixed, quantitative and qualitative, approach was used which allowed greater depth in data collection on the research topic. A survey was chosen as the best means of contacting a large population in diverse places. More in-depth interviews and discussions were carried out to enhance the qualitative data. An analysis was then carried out on the three datasets (survey, interviews and survey report discussions) to provide triangulation of the research data. The following material provides more detail on these three data collection strategies.

### **5.3 Quantitative/qualitative survey data (Datasets #1 and #2)**

The primary data collection for this research was through a web-based survey (Refer to Appendix E) that permitted a fast and inexpensive means of gathering information from a large number of health-care managers located over a substantial geographic area. The web-based format was a less intrusive survey option and easily addressed the time limits (i.e. no more than thirty minutes) of participant time stipulated by senior health-authority managers in supporting my study. The advantages of web-based surveys over paper surveys are as follows: paper, postage, mail out, and data entry costs are almost completely eliminated; the time required for the implementation is reduced; the cost of surveying additional respondents is much less; and reminders and follow-up are relatively easy and data from web-based surveys can be easily imported into data entry analysis computer programs (Archer 2003:1). Pocknee and Robbie agree with these advantages and add shorter development time, data entry accuracy, projectability and complex data gathering at source (Pocknee and Robbie 2002:2).

The limitations of web-based surveys identified by Archer and Solomon did not apply to my research in every way. The lack of computers and computer literacy in the general population would not apply to health-care managers as throughout the industry computers have become a

basic tool for communications and work. Different screen configurations were not only tested several times in the survey preparation but the health industry maintains basic computer hardware and software capability, even if, in some instances, it may be outdated. Also being in touch regularly with the health authorities, I was familiar with their computer capability and planned for a simple web-based survey format. Obtaining e-mail addresses from the general population would be a problem but in this research access to the health-care managers' e-mail addresses was arranged through the health authorities. However, the final limitation that, "the decision not to respond is likely made more quickly" (Archer 2003:2); (Solomon 2001:2) could be a possibility but this is difficult to assess. In the end, I believe every practical step was considered for the effective use of a web-based survey method.

My research was well suited to survey methods. Northey indicates that "surveys are the most common type of quantitative research in social science, as their purpose is to generalize about the relationships among variables in a population" (Northey 2002:68). Since there had been no evidence of any recent research on my topic, it was important to contact as many health-care managers as possible for their opinions. My choice of a survey for my research complied with the descriptions provided by both Judd, Smith et al and Ferber, Sheatsley et al. Judd, Smith et al. state that:

Quasi-experimental and survey research designs are the methods of choice either when establishing causality is not a primary concern in the research, or when we simply cannot manipulate independent variables of interest. In the former case we may simply be interested in documenting the distribution of some variable of interest in some population. We may also be interested in establishing whether or not two variables are related, regardless of whether that relationship is causal. For these sorts of goals, survey and quasi-experimental designs are perfectly suitable (Judd, Smith et al. 1991:126).

Whereas, Ferber, Sheatsley et al. describe a survey as "any observation or investigation of the facts about a situation" and notes that it is often used to describe a method of gathering information from a 'sample' in order to learn something about the larger population (Ferber, Sheatsley et al. 1994:3). Usually surveys gather information on a small sample of a larger population. My research sample represented a portion of the total number of health-care managers in British Columbia. Ferber, Sheatsley et al. indicate that the intent of the survey "is not to describe the particular individuals who by chance are part of the sample, but to obtain a statistical profile of the population". My research was intended to obtain a statistical profile of the health-care managers as a group. Ferber, Sheatsley et al., also indicate that a survey could be described according to its size and type of sample and/or its delivery mechanism such as by mail, telephone,

personal interview or web-based ”(Ferber, Sheatsley et al. 1994:3). My research was to contact two thousand, nine hundred and thirty health-care managers and it was web-based. Support for my research and the survey was obtained from the Chief Executive Officers of the six health authorities in the province of British Columbia.

### **5.3.1 Survey ideas and concepts**

In keeping with the hypothesis of my research, the overall objectives of the web-based survey were to identify current management educational competencies, and to obtain the views of health-care managers on e-learning. In addressing the first objective my intent was to identify the current competencies of health-care managers, where they had acquired such competencies, the problems with acquiring new competencies and to have the managers identify their most urgent training needs. The first task was to create a list of familiar competencies. To achieve this, I reviewed a number of management competencies lists. These lists were identified in Chapter 3 and are compared in Appendix B. There were thirty-eight competencies in the initial list but early paper-survey testing found that this list was too large. To streamline the list down to fourteen competencies (i.e. the final survey list) duplicate variables were deleted and others combined. This list of fourteen competencies was then checked with a number of health-care managers. It was agreed that the shorter list would be familiar competencies to most health-care managers. The final list of fourteen competencies for the survey was as follows:

- Evidence-based management
- Use of statistics
- Communication and information technology use
- Governance and policy development
- Leadership skills
- Conflict management
- Change and complexity
- Evaluating management plans
- Environmental and risk management
- Quality improvement
- Human resource management
- Financial analysis
- Project management
- Contract management

This final competency list consisted of familiar management competencies found in the literature. Knowing that competency lists for health-care managers are constantly being redefined, the findings of this study will be a profile 'in time'.

In addressing the second objective the questions were designed to focus on the health-care manager's views on traditional and distance/e-learning. My intent here was to find out how many health-care managers were already familiar with distance and/or e-learning, their views on face-to-face learning, their opinions with regard to e-learning and whether they would choose e-learning should more options become available. A number of general education questions were included which focused on soliciting the managers' views on academic credit, their personal assessment of their computer/Internet skills for e-learning, and whether they thought health reform had changed their lifelong learning needs.

A number of tests were carried out on both the paper and web-based surveys to assess the survey content and completion time. As a result of these tests, further streamlining of the survey instrument was carried out. The twenty-minute timeframe was considered workable since each participant was not expected to answer all questions. It also provided room for participants to complete the open-ended questions. The time factor meant that the twenty-five survey questions had to be well focused. To further aid the participants, survey access codes were hidden allowing each participant direct access to the survey once he/she clicked onto the e-mail, web-site address.

My survey was designed to gather information on the two main themes of management competency and education delivery, while being sensitive to the participant's work demands and health authority stipulations. Efforts were made to ensure that answering the survey was quick and easy by delivering the survey instrument directly to the managers' workstation computer. By encouraging their managers to participate the health authorities facilitated the process of both contacting the managers and supporting my research.

### **5.3.2 Survey format and structure**

A Perseus SurveySolutions XP-Professional computer program was used to create the web-based survey. This software was selected after investigating a number of survey programs available on the Internet. One advantage of this program was that the survey process could be handled in a word-processing environment. The web-based format allowed for a totally electronic survey process using e-mail communications and a designated survey web site.

My survey question design took into account the following combinations: single and table format, button and drop-down boxes, coding (in one instance) to restrict the number of answers, and closed and open-ended questions. The closed questions were both dichotomous (yes/no),

multiple choice and rating scale. Four open-ended questions were intended to explore the qualitative, in-depth aspects of a particular topic. The design flowed from broad general interest questions, to more specific questions and back again to general questions. The simplicity of the design was intended to accommodate a variety of computer software and hardware programs. *Guidelines of the American Statistical Association* were used in designing the survey. The twenty-five survey questions were structured as follows. Questions 1 to 7 sought demographics information such as: the health authority, worksite mailing code, management level, age group, gender and educational background. Question 8 sought information on the most recent management education to determine if health-care managers were able to access such education in the last four years. Questions 9 to 13 sought information on current management competencies by asking respondents where they acquired their competency training, rating their competencies, identifying three priority competency learning needs, and explaining why current education opportunities were not meeting their management needs. Questions 14 to 20 sought information on classroom, distance and e-learning. Question 21 asked respondents to compare classroom (face-to-face) learning, distance paper-delivered learning, and e-learning against thirteen variables. Questions 22 and 23 explored the need for academic credit for professional experience and other educational programs. Question 24 asked respondents to identify ways in which their educational needs had changed due to health reform. Question 25 was an open-ended question for additional comments on health management education. The format and structure of the survey instrument was intended to provide the participant with an easy-flowing mixture of questions focused on the research hypothesis and objectives.

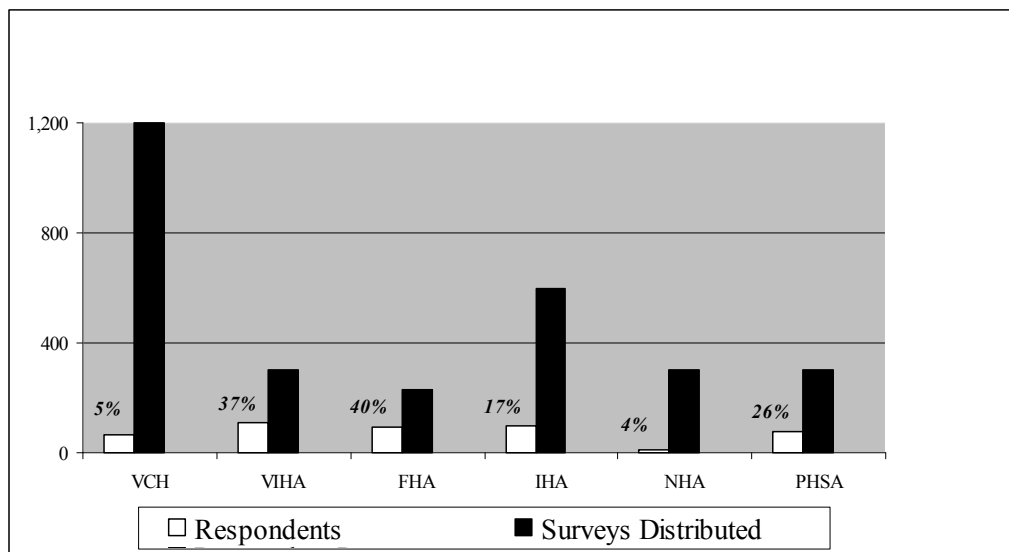
### **5.3.3 Survey sample, distribution and response**

As noted in chapter 3, data is not regularly collected on health-care managers in British Columbia or in Canada which presents some difficulties in determining the representativeness in my survey. The estimated population of health-care managers in British Columbia is about 3500 to 4000. For my research, the health authorities identified two thousand, nine hundred and thirty managers who could be easily recruited for my study. The number of health-care managers contacted along with the percentage of response by health authority is presented in Table 5.1.

**Table 5.1: Survey Participant Sample and Response by Health Authority**

<i>Health Authority</i>	<i>Respondents</i>	<i>Surveys</i>	<i>Percent</i>
Vancouver Coastal	64	1200	5%
Vancouver Island	111	300	37%
Fraser	92	230	40%
Interior	101	600	17%
Northern	12	300	4%
Provincial Services	78	300	26%
<b>TOTAL</b>	<b>458</b>	<b>2930</b>	<b>16%</b>

A graphical demonstration of the ratio between the surveys distributed and response rate can be found in Figure 5.2.



**Figure 5.2: Ratio of Respondents to Surveys Distributed to each Health Authority**

The representativeness of the response to my survey will be addressed later in this section and again in chapter six. With regard to the sample size, Ferber states that “the sample size required for a survey depends on the reliability needed which, in turn, depends on how the results will be used”. Whereas, Fitzgerald states that the adequacy of a sample is determined not by its size but by the decisions the researcher can make by using the information gathered from the sample (Ferber, Sheatsley et al. 1994; Fitzgerald 1999:1). The two thousand, nine hundred and thirty health-care managers designated to receive my survey were considered a sufficient sample of health-care managers in the health industry of British Columbia.

It was agreed that the web-based survey would go to managers in non-union, dedicated management positions (i.e. those with management position titles) within each health authority.

The selection of non-union managers provided access to the largest number of health industry managers. The only group of health-care managers not included in this e-mail distribution system were a number of registered nurses who were also managers. In British Columbia some registered nurses who are in management positions are also in the bargaining unit for registered nurses. These unionized nursing managers are usually not in the health authority non-union management group e-mailing system. The health authorities vary in how they address this small group of managers, some have a separate e-mail system while others include them in the general nursing communication system. This exclusion did not mean that registered nurses who were also managers were not included in my survey. Registered nurses can be found in non-union management positions and, thus, were included in the survey. Registered nurses were also participants in the senior management interviews, in the test/retest process, and in other testing of the survey instrument. In addition, the qualitative comments from the survey indicate that nursing managers were well represented.

Another issue with regard to processing the survey through the health authority e-mail system was that two of the largest health authorities (i.e. Vancouver Coastal Health Authority and the Provincial Services Health Authority) did not have a management group e-mail system in place at the time of the study. The problem with the lack of a single management e-mail system in the two largest health authorities meant that the survey participants had to be contacted through individual health care institutions (i.e. hospitals and/or long-term care facilities) which added another complexity to the survey process. As the health authorities were making every effort to accommodate my research, access to their internal e-mail systems was accepted with the understanding that these systems were not ideal. According to Northey, this type of research sampling could be considered 'availability sampling' because it consists of selecting respondents who are available to a researcher (Northey 2002:72).

My original plan was to administer the survey during May and June of 2004, preceding the annual July to September summer vacation period in British Columbia. Two health authorities were to be surveyed at a time within a 10-day cycle. This 10-day cycle included the initial e-mail invitation and one reminder. This was in keeping with Archer's recommendation of a shorter time (usually 8-10 working days) cycle from notice and reminder(s) with web-based surveys (Archer 2003:2). The health authorities in this early plan agreed to only one survey reminder.

However, my original plan was derailed when a two-week provincial health industry strike occurred in early May, just as my survey was about to start. Once the strike was over, a new schedule had to be negotiated. My decision to press on with the survey was supported by the health authorities as the next available opportunity would not occur until well into the Fall. The

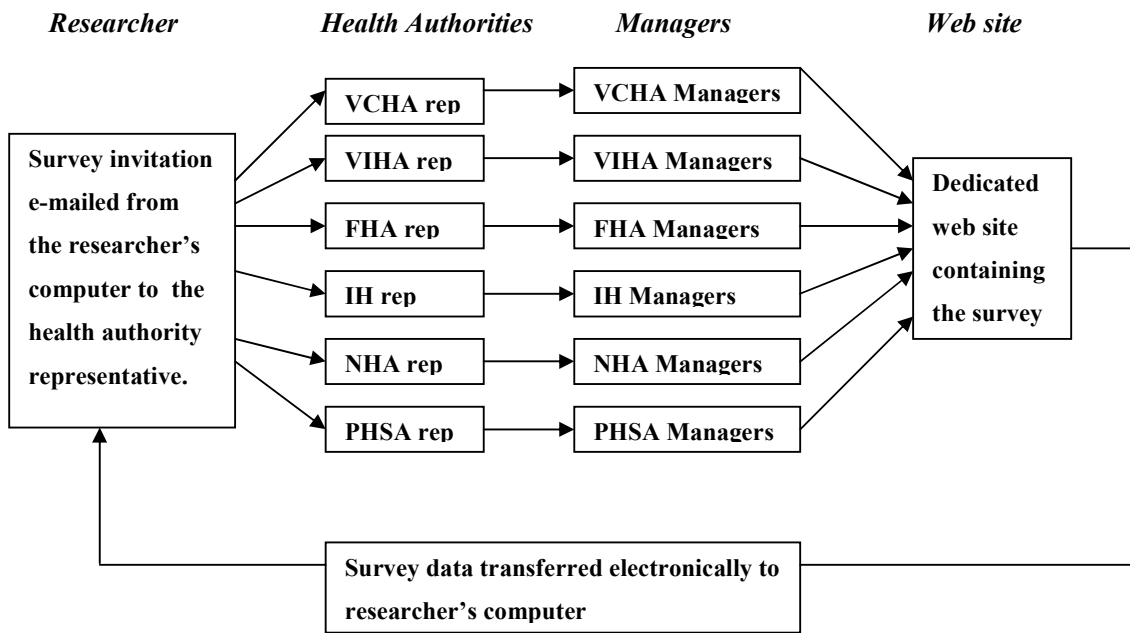
survey was implemented during an eight week period from the end of May to the second week of July. The 10-day cycle was maintained with pairs of health authorities being surveyed at one time. In this rescheduling, three health authorities agreed to a second reminder which was administered in mid-July. When all six health authorities had completed the survey, the data was transferred from the dedicated survey web-site and stored on my computer and CD copies archived.

The survey implementation process is illustrated in Figure 5.3 on the next page. The actual survey process consisted of the following steps: My survey e-mail invitation was sent to each health authority representative containing a description of the research, a consent and confidentiality statement, time commitment, and the survey web-site address. The health authority representative added his/her supportive comment to the e-mail before sending it along to their managers. This combining of an e-mail cover letter with the survey invitation is supported by Solomon, who states:

Combining an e-mail “cover letter” as a means of contacting sampled people with the use of an HTML form for data collection provides an especially effective and efficient approach to Internet surveying (Solomon 2001:2).

In addition, the e-mail invitation and reminder messages were kept short which was also recommended by Archer (Archer 2003:2). Once each manager clicked onto the web-site address, he/she had immediate access to the survey. The reminder e-mail invitations followed the same format. Once the manager submitted his/her response it was stored on a dedicated web site until all surveys were completed. No individual names were recorded with each submission. At the completion of the survey, the data was e-mailed to my computer by the web site administrator. Once the survey was completed a thank you was then sent to all managers using the same format. The entire survey process was electronic which avoided possible human error with manually entering data into a computer.





**Figure 5.3: Web-based Survey Implementation Process**

The response rate, defined as “the percentage of respondents in the initial sample from whom complete responses were received” (Judd, Smith et al. 1991:216), for this study was 15.6 percent (i.e. four hundred and fifty-eight). The representatives of the two largest health authorities (i.e. Vancouver Coastal Health Authority and the Provincial Services Health Authority) were disappointed in the low response rate from their health authorities as they had made an extra effort to get the support of their managers.

Given that statistical data is not maintained on health-care managers, it is difficult to assess whether or not the sample of four hundred and fifty-eight was representative of the health-care population. While the survey may be regarded as being provincial and representative, the response was mainly from four of the health authorities. As will be shown in chapter six, all management levels were represented with the majority of respondents coming from frontline female managers working in urban locations in the province. Representation did include those with varying management responsibilities (i.e. clinical, technical and administrative). Since health-care managers in the health industry of British Columbia work under similar, and often identical rules, policies and organizational structure, it might be concurred that the four hundred and fifty-eight respondents were a representative group. While the number of responses was much less than anticipated, the percentage breakdown by management level, noted in Table 5.2 is representative of a reformed industry where there are fewer managers at the executive and regional management level and more at the frontlines.

**Table 5.2: Management Level of Survey Respondents**

<i>Management Level</i>	<i>Count</i>	<i>Percent</i>
Executive	22	5%
Regional	96	21%
Program/Unit	273	60%
Other	67	15%
No Response	0	0%
TOTAL	458	100%

The 2000 CCHSE study of Chief Executive Officers (CEO), which focused on only one level of health industry management, might be helpful as a comparison. In determining whether the CCHSE survey sample was representative, the researchers compared the sample against the CCHSE database of members where the membership record indicated a CEO-level position. Bias in the CCHSE database was acknowledged in that it had a high proportion of members from Ontario (one province of Canada). Nevertheless, of the 108 responses (out of a population of 336) 87% were male and 12% were females. In comparing the CCHSE survey sample with their database information, the researchers concluded that their survey sample “had under represented women in CEO roles”(Armstrong, Brunelle et al. 2000:3). The gender breakdown by management level in my survey is presented in Table 5.3.

**Table 5.3: Management Level of Respondents by Gender**

<i>Management Level</i>	<i>Male</i>	<i>Female</i>	<i>TOTAL</i>
Executive	9	13	22
Regional	45	51	96
Program/Unit	58	215	273
Other	13	54	67
TOTAL	125	333	458

This table shows that the majority of respondents in my survey were female (73%), with females outnumbering the males in all three levels of management. At the Executive (i.e. CEO) management level, females were 59% compared to males at 41%. At the regional management level females were 53% to males at 46%. At the program (i.e. frontline) management level females were 78% to males at 21%. In summary, my survey may be biased towards females.

In addition to the gender bias, the survey may also have an urban bias as shown in Table 5.4.

**Table 5.4: Urban/Non-urban Location of Respondents**

	<i>Respondents</i>	<i>Percent of Respondents</i>
Rural	22	5%
Urban	418	91%
No Response	18	4%
Total	458	100%

This table shows that 95% of respondents worked in an urban area of the province which indicates that in addition to a female bias, my survey may also have an urban bias.

The argument that people who are more affected by change will more likely respond to the survey on change and learning is a reasonable one. This might mean that those health-care managers who made the effort to complete the survey were highly motivated considering their workload following a provincial health industry strike. While this may be true, the quantitative and qualitative data from the survey were supported in interviews with senior health-care managers and follow-up meetings with health industry stakeholders, which tends to ameliorate this argument. Since the survey, interviews and stakeholder meetings involved about five hundred health-care managers, the findings of this study may be regarded as a reasonable picture of the views of health-care managers at a point in time.

Survey response rates have been addressed by a number of writers. While a rule of thumb for surveys is that a fifty percent response is preferable, MacLachlan argues that it is clear that some potentially valuable information can be gained from surveys with response rates of ten percent to thirty percent (MacLachlan 2000:1) I suggest that the 15.6 percent response rate for this survey is sufficient to provide valuable information in that it presents, for the first time, the views of health-care managers on their skill needs and e-learning following over a decade of health reform. Possible reasons for the response rate in my study will now be reviewed.

It was first important to ask whether the electronic nature of the survey presented any barriers to the participants. Solomon cited several studies which found that the response rates for Internet surveys were lower than equivalent mail surveys and, that this lower rate did not show any pattern as to gender, age or education level (Solomon 2001:3). According to Bosnjak and Titen increased drop-out rates for web-based surveys occur when open-ended questions or questions arranged in tables are used (Bosnjak and Titen 2001:3) a format used in my survey. In the testing of the survey neither the open-ended questions nor the tables appeared to be a problem. In fact, the open-ended questions were regarded as a plus. The same authors indicate that download time could be a negative factor for some respondents (Bosnjak and Titen 2001:3). Again, the download

time for my survey was checked several times with different computers and different managers and did not appear to be a problem. Another issue identified by these authors is that the commonly used techniques in web surveys may alienate respondents who are uncomfortable with the Web (e.g. as pull-down menus, unclear instructions on how to fill out the questionnaire, and the absence of navigational aids) (Bosnjak and Titen 2001:3). Pull-down menus were used in this survey although at no time in testing the survey did any manager indicate this was a problem. Further clarification was sought on one question by one respondent and this was resolved by an e-mail. The order of topics in a web survey was another issue, with a significantly lower response rate noted when socio-demographic data was requested at the beginning of the survey rather than at the end (Bosnjak and Titen 2001:3). In my survey the socio-demographic information was placed at the beginning on the assumption that if left to the end this essential data might not be completed.

There were six occasions respondents reported technological problems. The type of issues identified were:

- the participant's computer firewall blocked access to the survey,
- the computer froze when the participant tried to submit his/her response, and
- the participant could not reenter and complete the survey when called away from his/her computer.

Most problems were resolved by sending another survey e-mail to the participant. The firewall issues was referred to the Information Technology department of the health authority concerned.

Since surveys can be electronically delivered by two routes, web-based and e-mail, I decided to explore whether e-mail survey studies may have something to say about my survey. Yun and Trumbo report that the overall response rates for e-mail surveys are known to be somewhat lower than paper and pencil surveys (Yun and Trumbo 2000:3). Whereas, Sheehan, who reviewed thirty-one e-mail survey studies from 1986 to 2000, found that "some e-mail surveys did better than mail surveys, some did worse, and some were statistically in a dead heat". Her most interesting finding, was that in the past fifteen years response rates have been declining for all types of surveys. Some speculate this is due to the United States population being over-surveyed. To explain this trend, she suggested that early e-mail surveys were limited to survey populations with high rates of computer use, such as universities, business, larger organizations, and purchasers of computer equipment. This decreasing trend was also noted in a United States federal government statistical paper. Sheehan states that with the minimal adoption of e-mail surveying to date, combined with falling response rates, there is a less than promising future for e-

mail surveys. She expects response rates to e-mail surveys will continue to decrease (Sheehan 2001; Petroni, Sigman et al. 2004:9). Thus, while the over-surveyed response pattern may be a contributing factor, the outcome information for e-mail surveys did not contribute a great deal to the reason for my response rate.

With regard to survey response rates in general, Sheehan notes other potential factors as: survey length, design issues, respondent contacts, issue salience, research affiliation and compensation (Sheehan 2001:3). With regard to the survey length and design, the survey was held to twenty-five questions taking about twenty minutes to complete. Sheehan found that the mean number of e-mail survey questions was 42.3 (i.e. a range from a low of 5 to a high of 94). My survey of twenty-five questions is well below this mean. With regard to respondent contact, a pre-notification was planned which each health authority representatives was to send to their managers. As noted above, the health authority representative also agreed to add their supporting comments to each survey e-mail sent to their managers. Since the literature shows that more than two reminders do not necessarily produce better response rates(1997:9);(Solomon 2001:3), the respondent contact in my survey appeared to be adequate. The salience or timeliness of the topic was commented upon by the survey respondents in their written responses and reinforced later during discussions with health industry stakeholders. This topic is currently a priority within the health industry. Research affiliation was a positive feature of this survey as respondents felt their replies would be reviewed by an outside researcher. Compensation did exist for the health authority in that they were given a separate survey report for their support of my research. In summary, most of the general survey features noted by Sheehan as affecting response rate were addressed in my survey.

Another issue with all surveys is the volunteer factor. Northey states that the volunteer respondent factor in surveys differs from respondents selected by more random means (Northey 2002:73) and this affects the response rate. While senior health authority management encouraged their managers to participate in my research, each individual manager volunteered to complete the survey, a decision made against a list of other pressing priorities exacerbated by a provincial health strike.

To explain the high level of non-response in organizational surveys Tomaskovic-Devey has pointed out, that while informants in organizational surveys are individuals, the organizations are not, and attempts to improve survey methodology must deal with the differences. According to this writer, organizations are differentiated, hierarchical and have routinized behavioural patterns. An organizational respondent will respond to a survey request as a function of their authority to respond, capacity to respond, and motive to respond which may either enhance or erode the

probability of survey response. Tomaskovic-Devey states that organizational complexity, both vertical and horizontal, can be an important influence on both the authority and capacity to respond. The vertical component includes the growth of hierarchy and attendant centralization of decision-making authority (e.g. the mega-health regions) and the horizontal component (e.g. new affiliations and amalgamations) can produce a fragmentation of knowledge about the whole firm. Both knowledge and authority may be so diffuse as to make it quite difficult for even moderately complex surveys to be completed (Tomaskovic-Devey, Leiter et al. 1994:2). This argument would need further study but there are elements which may have some bearing on the response rate of my survey, i.e. a newly reorganized health industry with many managers in relatively new positions. The relative newness of their positions may have inhibited some managers in taking a risk, as they saw it, in stating their education needs in a survey.

Irrespective of the above arguments on web-based or general survey response rates, I believe the main contributing factors to the non-response for my survey were the provincial health strike, and the lack of group e-mailing systems in two of the largest health authorities. The question of non-response remains an issue, as a high rate of non-response creates the potential for large statistical bias. The underlying concern is whether these non-respondents differ significantly from respondents. I would argue that the four hundred and fifty-eight responses do constitute a representative sample of health-care managers and their views do provide valuable insight into topics under investigation.

The material in this section has shown that the web-based survey was chosen as a cost effective and technically suitable means of contacting a large number of health-care managers. The web-based format addressed the time limitation set by the health authorities and provided the least intrusive research strategy. Implementation of the survey flowed electronically from my computer through health authority group e-mail systems to the health-care managers. In accessing the web-site the participant had direct admission to the survey. The same implementation process was used with the invitation and reminders. Every effort was made to facilitate the web-based survey process but could not overcome industry complexities created by a provincial health strike. The health industry stakeholders considered the 15.6 percent response rate as more than adequate in light of the circumstances.

#### **5.4 Qualitative interview data (Dataset #3)**

The case study used in this research also involved interviews with thirteen senior health-care managers (Refer to Appendix F). Five additional interviews were held with senior health-care managers involved in management education in the health authorities. The data collected from the

five interviews was used in chapter four. This section refers mainly to the interviews with thirteen senior health-care managers who were contacted to provide qualitative data in support of the data collected in the survey.

A telephone interview method was selected for these senior health-care managers in order to, once again, contact managers throughout the province, as well as for its convenience and flexibility in accommodating busy schedules. My primary purpose in using telephone interviews was to gain qualitative data. The questions in these interviews (Refer to Appendix G) were intended to reinforce the survey objectives plus seek information on other related topics such as: how health-care managers were coping with health reform, the educational needs of new managers, whether new management credentials were needed, what management priorities were expected in the near future, and to discover whether any new educational strategies were being considered for managers. With many of these senior managers having experienced health reform for over a decade, their views on how to address the new skill demands of managers were critical to my research. In the end, the qualitative information obtained through these interviews was strengthened by the quality and quantity of written comments provided by the survey participants. This qualitative information reinforced and expanded the survey data and contributed to the achievement of my research objectives.

Supporting the interview method, Tellis states that interviews are one of the most important sources of case study information and can take several forms: open-ended, focused, or structured. In an open-ended interview, the researcher asks for the informant's opinion on events or facts. In a focused interview, the respondent is interviewed for a short time, and the questions asked could come from case study protocol. The structured interview is particularly useful in large studies where a formal survey is required (Tellis 1997:7). My interview method was both open-ended and focused. The telephone interview strategy consisted of a number of open-ended questions designed to focus discussions and enhance the survey data. The intent was to solicit further information or examples of what was happening in the working environment and how the interviewee envisioned the future of management education. I conducted all interviews myself because knowing the health industry and knowing the management education focus of my research, I could respond quickly to the information arising during the interview.

Judd, Smith et al. suggest that the most important advantage of telephone interviews is that it permits a high response rate. This was the case in my study as thirteen of fifteen managers contacted did find the time for an interview. Besides the high response rate, Judd, Smith et al. consider the advantages of telephone interviews as being that any misunderstandings can be corrected, respondents can be motivated, and/or more details can be probed when answers are

vague. The disadvantages of telephone interviews, according to these authors, are: interviewer effects are possible, there is an inability to use drawings, maps or other visual aids, and there are no visual cues (Judd, Smith et al. 1991:218 to 221). In my research, since both the researcher and interviewee were familiar with health reform in British Columbia there was little misunderstanding on the topic and visual aids were not required. To provide more information on the interview method this section has two sub-topics: interview format and structure and interview sample and response.

#### **5.4.1 Interview format and structure**

In my initial telephone call to the interviewee, I provided information on my research, e-mailed a consent form and booked the interview. These thirteen telephone interviews were conducted over a period of eight weeks with calls ranging from thirty to sixty minutes depending on the individual's schedule. Judd, Smith et al. state that "telephone interviews do not impose strict limits on interview length, although they generally do not extend much over an hour" (Judd, Smith et al. 1991:219). By providing the general questions in advance each participant was well prepared for the interview which maximized interview time. Every effort was made to develop an atmosphere that fostered trust and ease in the interview process.

The telephone interview strategy followed a similar pattern with each interviewee. In this setting it was expected that the responses would vary depending on the management level of the individual. The questions in this interview strategy were created to stimulate discussion and as anticipated, sometimes the respondent concentrated on one question more than another. The interview questions were structured to coincide and expand on the survey questions by exploring with the interviewees their perspective on the topics and to provide, in their own area, examples of the issues and barriers they were encountering with regard to health management education.

#### **5.4.2 Interview sample and response**

The thirteen health-care managers were mostly corporate and/or senior managers in government and/or health authorities in British Columbia. Because of their senior status it was unlikely they would be participating in my general survey. The interview participants were either known to myself or their names provided by others in the health industry.

All interviewees were generous in their responses with some providing examples of the current management issues which they were facing. For instance, one senior manager took time to describe her difficulties in trying to deal with various health delivery sites in which older managers resisted using computers but were highly proficient in their professional work while



younger managers with good computer skills were less able to produce readable reports. Her dilemma was trying to identify a management education strategy which would address both groups and produce the outcomes needed to improve health service delivery in her department. There was no hesitation by any of the interviewees in answering any of the questions and in several instances they noted their regret at not having more time for further discussion. Following each interview a thank you was e-mailed to each interviewee. After each call, the data was immediately recorded by myself into a Word document arranging the responses according to the thirteen questions.

The information in this section shows that the interview strategy for my research was designed to correspond with the survey data collection and to provide more qualitative input to the topics of management competency and learning delivery options. The interviews provided more practical examples of the actual working environment and learning needs of managers, gave more detail to the learning issues and barriers, and provided information on current and future trends and skill demands in the industry. The quality of this information added to the written comments in the open-ended survey questions enhancing the qualitative data of my research. These eighteen interviews were valuable additions to my data collection in addressing the hypothesis and research objectives of my research.

### **5.5 Health industry stakeholder feedback (Dataset #4)**

As noted in chapter three, current research data on health industry management is limited, and practically nonexistent on health management education. As an incentive to the health authorities for their participation in my study, I agreed to provide them with a report on the survey findings. This, following the completion of the survey, data was compiled and submitted to the health authorities in the form of an eighty-page report. This crucial part of my research served two purposes: it provided the health authorities with the most current research data and personal comments from their managers on education, and provided me with a stakeholder forum to review my findings and provide feedback. The report title was “*Management Education Needs and Delivery Options for Health-care Managers*” (Robertson 2004).

The health authority report was sent by e-mail to the Chief Executive Officers and six health authority representatives on September 30, 2004 for distribution within their health authorities. The Executive Summary of this report can be found in Appendix D. In this report, quantitative data was consolidated into twenty-five individual tables and qualitative data was gathered into themes. The major difference between the health authority report and chapters six to eight in this thesis is that more of the actual participant comments were included in the health authority report,

the intent being that the survey findings might increase dialogue on health management education planning within the health authorities.

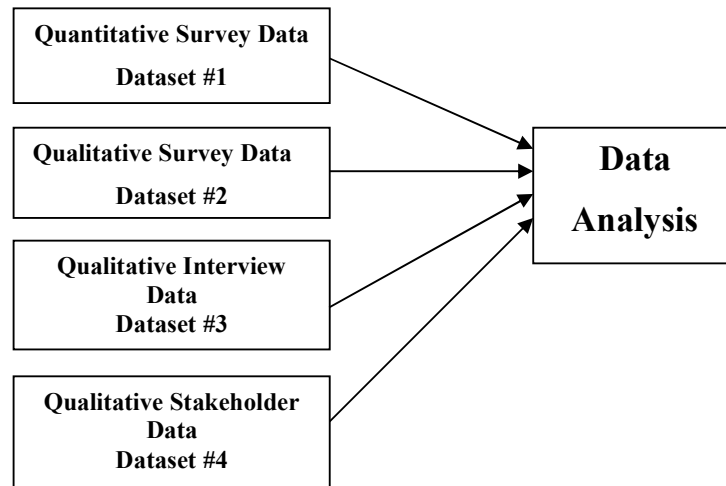
Following the release of the report, a number of meetings and correspondences were carried out with health industry stakeholders to ascertain whether they agreed or disagreed with the findings. In October 2004, I contacted, by telephone, each health authority representative to discuss his/her views, and their colleague's, on the survey findings. My strategy with these calls was to proceed with an open-ended interview process focused on the Executive Summary (Refer to Appendix D) and asking each interviewee if there were any findings in the report which were a surprise or stood out. Following each interview the discussions were recorded into a Word document. As with the previous interviews, individual or group participants were thanked at the end of each session.

Once the health authority survey report was released, there were a number of opportunities to present, discuss and/or have my research findings reviewed by other health industry stakeholders. In October 2004, the survey findings were first discussed at a provincial health human resources conference. In December, I was asked to speak to ten members of the leadership education faculty at the Vancouver Island Health Authority. Also in December, I was asked to do a presentation at the Victoria, British Columbia local branch meeting of the CCHSE to about thirty members. Again in December, I was asked to prepare a briefing paper of my research findings for the Royal Roads University in Victoria, British Columbia, symposium on '*Developing a Strategic Leadership for Health Reform in Canada*'. The focus of this symposium was on the need for increased provincially/federally action in health industry leadership education. The post-symposium white paper made reference to my research. At the same time, I was asked to prepare an article for the national journal of the CCHSE. Further communications involved sending my survey report to a number of nursing leaders in Canada. The Canadian Health Services Research Foundation in Ottawa noted my survey report on their web site. The immediate interest in my research findings indicated that my research topic was not only timely but of major interest to health industry leaders. The health industry stakeholder feedback supported and strengthened my research findings. The timely nature of my research was evident by the positive response I received from both provincial and federal organizations.

## **5.6 Analysis of the total data set**

Judd, Smith et al. describe research as “a circular process, such that data analysis usually serves to stimulate further hypotheses to be tested, or to summarize the completed observations in such a manner that they yield answers to the research questions. Interpretation is seen as a search for the

broader meaning of these answers by linking them to other available knowledge” (Judd, Smith et al. 1991:360). For my research the data from the four datasets [i.e. survey (quantitative and qualitative), interviews and feedback discussions] were assembled for analysis, as illustrated in Figure 5.4, with the purpose of both summarizing the observations and finding the broader meaning in addressing my research questions. Data consolidation and analysis was ongoing throughout the data collection period from May to December 2004 with each dataset tightly linked and structured to enhance the other.



**Figure 5.4: Analysis of Four Datasets**

The web-based survey data (Datasets #1) to the twenty-five questions were analyzed in the following way. All potential responses for each question were numerically recorded and the results of each response tallied. In the Microsoft Excel worksheet, each column represented a unique question and each potential response to that question was represented by a unique code. Each row in the worksheet represented a complete set of responses from a given survey respondent. The quantitative data was analyzed according to the conditions indicated in the body of the survey. Written responses in the open-ended questions (Dataset #2) were segregated into other worksheets for analysis. In analyzing the written replies in the survey, key words and phrases were used as descriptors to establish themes which emerged from the data. These themes were recorded in a Microsoft Word document. Some of the main themes and issues which emerged were: the effects of health reform on workload and learning, the need for change in management education, barriers to learning, e-learning and knowledge sharing.

The qualitative data obtained through telephone interviews (Dataset #3) of senior health-care managers were correlated to identify themes and issues specific to the questions used in the interview process. Since these questions were originally linked to the survey questions, it was not

difficult to connect the qualitative data from this source with the survey findings. This analysis was accomplished in both a Microsoft Word and Microsoft Excel format. The themes which emerged from these interviews were: ongoing health reform, support for managers dealing with health reform, the importance of management education, support for managers needing new skills, e-learning and knowledge sharing.

Feedback from the health industry stakeholders (Dataset #4) obtained through telephone interviews and meetings were correlated to identify themes and issues specific to the survey findings and the addition of any further comments on the topic. The information obtained was recorded in a Microsoft Word format. These interviews, meetings and discussions followed a similar pattern as stakeholder comments on the survey findings provided a validation of my study findings and additional views on management education.

In keeping with Tellis's point of view, the data analysis of my research consisted of examining, categorizing, tabulating, or otherwise recombining the evidence to address the propositions of the study (Tellis 1997:10). Information gathered from four datasets (survey closed and open questions, interviews and survey feedback) was combined to more fully address the main propositions of my study, the effects of health reform on the education of health-care managers and the views of health industry managers as to the viable option of e-learning in addressing their educational needs.

### **5.7 Validity and reliability**

With regard to the web-based survey instrument, face validity was used in testing the paper survey by having a number of health-care managers review and comment on the objectives and content of the survey. Later the initial web-based survey was again tested with the same group of managers to assure that their comments had been addressed and to test the web-based format. The role of the managers in these initial tests was to decide whether, in their opinion, the instrument continued to measure what it was supposed to measure. Further validity of the survey instrument was aided by the software coding which allowed blocking of resubmissions to provide a customized validation on one question in the number of choices the respondent could select.

Using interviews as a second data source further strengthened my validity because, according to Cooper, one of the strengths of the interview process is the ability to immediately check the validity of data. In this regard he notes:

In trying to gather a deeper understanding of the phenomenon in this fashion, qualitative researchers can more easily assess whether they are capturing the phenomenon they are trying to measure. For example, when conducting an interview, a researcher can immediately tell whether the questions they have chosen are effective in assessing the issue of interest (Cooper n.d.:8).

Cooper, however, cautioned that the interview method alone may not entirely rule out bias or prejudice which must still be guarded against so as not to undermine validity. To rule out such bias and to further test the credibility and trustworthiness of the findings, feedback on the survey findings was sought from a number of health industry stakeholders through additional interviews and discussions. This validation proved to be effective as the survey findings were supported by these health industry stakeholders. Thus, a number of steps were built into the research design to address the validity of the research instrument and the findings.

Triangulation was also employed to further validate my research data. Of the four approaches to triangulation identified by Tellis (i.e. data, investigators, theories, and methodologies) my research focuses on data as its triangulation strategy. Using four data sources supports Tellis's argument that such an approach increases the reliability of the data and the process of gathering it (Tellis 1997:2). Guion describes data triangulation as involving different sources of data/information (Guion 2002:1). Different sources of data were obtained from approximately five hundred health-care managers (i.e. four hundred and fifty-eight in the survey, thirteen in interviews, and about thirty-five to forty in feedback interviews/discussions). The use of different data sources fits Hilton's description of triangulation:

Triangulation is used to provide confirmation and completeness. It is the simple combination of different kinds of data and the attempt to relate them so as to counteract the threats to validity in each. Using triangulation can capture a more complete, holistic and contextual portrayal and reveal the varied dimensions of the given phenomenon. It should not be expected that each source of data will confirm each other. Rather, each source will contribute an additional piece to the puzzle and in that way complement each other (Hilton 2002:1).

The approach to triangulation used in my research enabled me to capture the thinking of a broad base of current health-care managers on management education at a particular point in time. Each dataset provided similar, yet different information and contributed to the overall enhanced picture and understanding of the research objectives. This agrees with the argument of Cooper that “ if the triangulation is conducted by using different data types, then this strategy improves the

validity of the findings (if the results from both approaches converge)” (Cooper n.d.:15). I believe validity was well addressed in my research design.

As for reliability, Judd, Smith et al. indicate that the reliability of a research measure is defined as “ the extent to which it is free from random error components”(Judd, Smith et al. 1991:51), or as described by Cooper, “whether a particular research technique will yield the same results if applied repeatedly to the same object”. With regard to using a survey method, Cooper indicates that it can be a reliable method when subjects are required to respond to a standardized questionnaire (Cooper n.d.:6). The survey used in my research was identical for all survey participants but it was not a standardized survey instrument. While this research instrument could be used in similar research, due to the time sensitivities of my research topic (i.e. change in management skills due to ongoing health reform), exact replication of my research results may not occur. For example, with ongoing health reform, the same group of managers could easily identify a different set of competency learning needs even if the survey instrument was used within months of my survey. Research repeatability with social science research would need to take such environmental change into consideration. Thus, to assess reliability of the data the following additional activities were undertaken.

My research survey instrument was pre-tested a number of times. First the computer software was tested, then a paper survey, next a web-based short program, and finally the larger survey was tested particularly as to the amount of time needed to completion. In April 2004 a test-retest of the web-based survey instrument was carried out with a select group of seven health-care managers in two health authorities (Fraser Health Authority and the Interior Health Authority). One week later the same survey was retested. Duplication was eliminated by selecting managers who were outside the non-union e-mail system in the health authorities.

In the analysis of the test/retest findings there was little variance between the survey results except for those questions where the individual was asked for their opinion/rating. Due to the web-based nature of the survey, which prevented direct training of the participants, a simple rating scale (i.e. a scale of 1-5, with 1 being ‘poor’, 2 being ‘average’, 3 being ‘good’, 4 being ‘very good’ and 5 being ‘excellent’) was used. In the question on competency skills, the respondents on the retest rated their competency skills slightly higher (i.e. 4 or 5) than in the initial survey (i.e. 3 or 4). Also, in another question the same respondents listed more educational topics in the retest (i.e. 1 or 2 more) than in the initial survey. It might be argued that within one week the participants had time to rethink their answers and changed their responses on these two questions. This shift in subjective responses may simply be a reality of survey rating scale questions as noted by Judd, Smith et al.:

.....the way the judge uses the rating scale to reflect his or her subjective impressions, and hence the rating the judge assigns to any given stimulus, may vary from judge to judge or from time to time. That is, the judge's frame of reference for using the rating scale will effect his or her ratings (Judd, Smith et al. 1991:149).

Even with this recognized problem, researchers continue to use such rating and selection questions. Both questions were retained as valuable information on how managers judged their current level of competency and their educational needs. I hoped, that the large survey sample might reduce bias.

The use of a web-based format was also reviewed with regard to its reliability as a research method. According to Morrel-Samuels, the same question posed on a web and in print can yield very different answers. He identified five types of problems which can undermine the validity and reliability of Web surveys. Only the first three appear to have any relevance to my research.

- (1) Response rates for web surveys can be as much as eighty percent lower than those for print counterparts. Employees resist web surveys for such reasons as difficulty accessing the survey, inability moving forward and backward through the questions, difficulty completing an interrupted survey, and fears about confidentiality. In my research, the survey software allowed easy movement through the survey questions. There were a few reported issues with interrupted surveys and any reported issues were resolved quickly. Confidentiality fears were not expressed by any participants.
- (2) Poorly designed Web surveys usually produce implausibly favourable responses which could be as a result of employees not being willing to complain because they are unsure of confidentiality. The competency rating question may have been one in which individuals felt unsure of the confidentiality of the survey. The decision to retain this question was discussed above.
- (3) In the workplace, printed surveys and Web surveys usually attract distinctly different respondents. The typical Web survey user has private access to a computer, holds greater responsibility, and is better paid. Because of this, it is argued, that a Web survey skims off a higher level of respondents. Since my research was directed at health-care managers who, in most instances, have their own computers, and fit the other criteria points, this skimming off problem was not anticipated.

The material in this section shows that the reliability and validity of my research was assured through a number of approaches. The survey instrument was tested numerous times as to content, timing and technical compliance. The interview approach allowed me to test the research questions and to acquire more in-depth information on the overall topic. My research findings

were confirmed and strengthened through the health industry stakeholder feedback. The extent to which the findings are supported by health-care managers will largely determine the extent that any generalizations can or will be made from the findings.

## **5.8 Conclusion**

This chapter describes the combination of quantitative and qualitative methods employed in my research. The methodology is described as a case study, where the health-care managers in British Columbia, are defined as the case. The research design involved the collection of data from three sources: a web-based survey (Datasets #1 and #2), interviews of senior health-care managers (Dataset #3) and feedback from health industry stakeholders (Dataset #4). The data were prepared, identified and manipulated mainly through the aid of Microsoft Word and Microsoft Excel computer programs.

My research involved input from over five hundred health-care managers in British Columbia. The web-based survey instrument, for all of its newness and technical issues, proved to be a most effective method in contacting a large sample of health-care managers over an extensive geographical area. This instrument also enabled me to address the time limit set by the health authorities in their support of my research. Both the open-ended questions in the survey and interviews of senior health-care managers provided in-depth qualitative data which strengthened the survey findings. Stakeholder feedback further substantiated and strengthened the survey and interview findings. A synthesis of all four datasets enabled me to develop a profile in addressing my research questions and objectives. It is my contention that this four-point methodology provided me with the most effective approach for my research.

Validity and reliability of my research design were tested using a number of methods to assure the credibility and trustworthiness of the survey instrument and the findings. The problem in studying a worksite environmental issue is that the repeatability of the study can be altered by time and events. Nevertheless, while views on competency needs may change in time a shift in learning delivery options may be less likely. Since health-care management statistical data is not maintained in British Columbia, the representativeness of the four hundred and fifty-eight survey respondents to the larger health-care management group cannot be ascertained. What is evident from the data collected is that my survey appears to have a female and urban bias. Of benefit to the study was the validation of the survey findings by senior health-care managers and health industry stakeholders.

Throughout the study every effort was made to adhere to the appropriate protocols regarding ethical behaviour and the research guidelines set by Curtin University of Technology. All



participants were informed of what the research was about, the anonymous nature of their input, and how the information would be utilized. In the next three chapters the findings and analysis emerging from the application of this methodology will be presented.

Chapter 5 has shown that data for this study has been collected from four sources; quantitative survey data, qualitative survey data, qualitative interview data, and qualitative stakeholder data. In addition, it has shown that every effort was made to assure quality in the data collected and in following the ethical protocols for all participants. In chapter 6 the findings from all four datasets will be presented; tabular/graphical form for the quantitative data and key themes identified for the qualitative data collected in the survey and interviews. The stakeholder data is in a descriptive form. Chapter 6 will be followed by chapters 7 and 8 in which the findings material will be analyzed.

## Chapter 6

### Findings

---

*The opposite of a correct statement is a false statement.  
But the opposite of a profound truth may well be another profound truth.*  
-Niels Bohr

#### 6.1 Introduction

As shown in chapter five, this study draws on both quantitative and qualitative data in presenting a comprehensive profile of health-care managers in British Columbia. This chapter presents the data from the four datasets identified in chapter five. The four datasets are: quantitative data from the survey (Dataset #1), qualitative data from the survey (Dataset #2), qualitative data from interviews (Dataset #3), and qualitative data from stakeholder meetings (Dataset #4). The material focuses on the competency needs of health-care managers following a period of health reform, and their views on educational delivery. The purpose of this chapter is to present the findings of the study.

The web-based survey contained twenty-five questions, both open and closed. In this chapter each of the four datasets will be presented; survey quantitative data from closed questions in tabular and graphical form, survey qualitative data from open questions by theme, interview qualitative data by theme, and stakeholder qualitative data in a descriptive format. The survey instrument can be found in Appendix E. Additional tables, more detail to some of the tables in this chapter, may be found in Appendix I.

#### 6.2 Quantitative data from the survey

The survey quantitative data from closed questions is presented in four sections: survey representativeness, survey demographics, management level, management education and educational delivery. The information focuses on the main themes of the study management education and educational delivery. A small amount of data which has been previously presented in chapter five will be repeated in this chapter to assure completeness to the findings material. .

### 6.2.1 Survey representativeness

Tables 6.1 and 6.2 provide data on the response rate by health authority and by survey distribution. As noted in chapter five, of the 2,930 health-care managers contacted in the web-based survey, 458 (15.6 %) responded.

**Table 6.1 : Survey Response Rate by Health Authority**

<i>Health Authority</i>	<i>Respondents</i>	<i>Percent</i>
Vancouver Coastal	64	14%
Vancouver Island	111	24%
Fraser	92	20%
Interior	101	22%
Northern	12	3%
Provincial Services	78	17%
TOTAL	458	100%

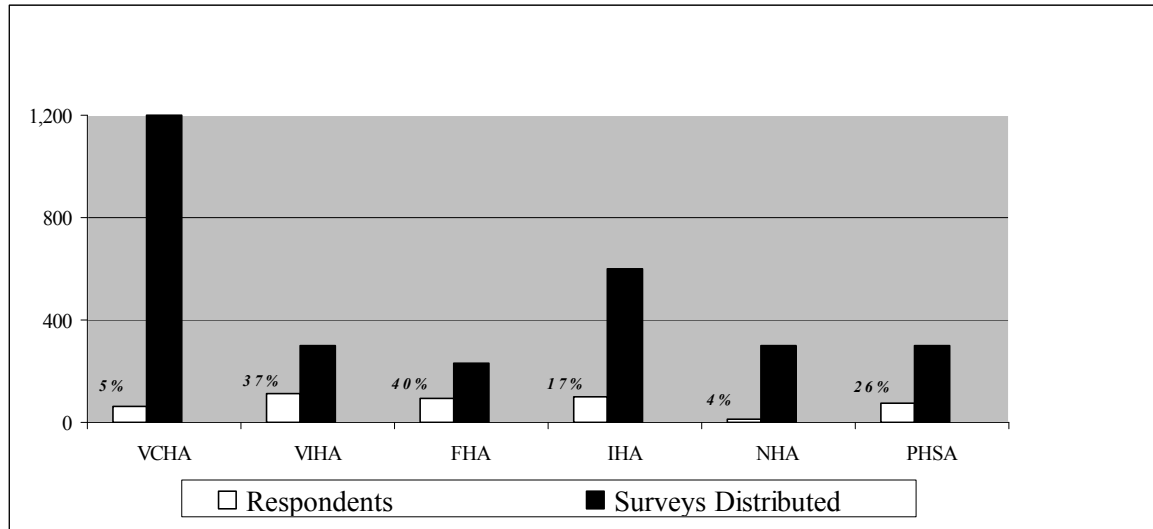
As noted in chapter five, the majority (66 %) of respondents were from the Vancouver Island (VIHA), Interior (IHA), and Fraser (FHA) health authorities. These health authorities are mainly in the highly populated regions of British Columbia and would include urban and some rural communities. The response rate for the Vancouver Coastal (VCHA) and Provincial Services (PSHA), the largest health authorities, was less than expected.

**Table 6.2: Survey Response Rate by Research Population**

<i>Health Authority</i>	<i>Respondents</i>	<i>Surveys</i>	<i>Percent</i>
Vancouver Coastal	64	1200	5%
Vancouver Island	111	300	37%
Fraser	92	230	40%
Interior	101	600	17%
Northern	12	300	4%
Provincial Services	78	300	26%
TOTAL	458	2930	16%

This table shows the rate of representation compared to the number of surveys sent to each health authority. In this table a low response rate occurred with Vancouver Coastal Health Authority (VCHA) and the Northern Health Authority (NHA) of 5% and 4% respectively. The expected response from the VCHA was anticipated at about 30% to 50%, which means the 5% response was far below expectations. Similarly, the 26% from the Provincial Services Health Authority (PSHA) was also lower than the expected response of about 50%, but the Provincial Services Health Authority response was much better than Vancouver Coastal Health Authority. The Northern Health Authority, being the health authority with the lowest number of health-care

managers and the largest geographical territory was expected to be low, but not as low as 4%. As the NHA was the region with the highest percentage of non-urban health-care managers, the low response created a problem in achieving a balanced urban/non-urban data. Figure 6.1 provides a graphical presentation of the response rate by health authority.



**Figure 6.1: Ratio of Respondents to Surveys Distributed to Each Health Authority**

The representativeness of the survey response was over 30% in two health authorities [i.e. Fraser Health Authority (FHA) and Vancouver Island Health Authority (VIHA)] and lower in four health authorities, with the largest variation between surveys distributed and responses found in the Vancouver Coastal Health Authority (VCHA). The lowest expected response rate of about 30% was not realized in four health authorities.

In summary, Tables 6.1 and 6.2 on representativeness found that while all six health authorities were represented in the study, the response rate was lower than expected.

### 6.2.2 Survey demographics

In this section, Tables 6.3 to 6.14, data will be presented on the basic demographics of the survey providing information on the work location, age, gender, and education of survey respondents.

**Table 6.3: Urban/Non-urban Working Location of Respondents**

**q2gr Postcode grouped**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Urban	418	91.3	95.0	95.0
	Rural	22	4.8	5.0	100.0
	Total	440	96.1	100.0	
Missing	System	18	3.9		
Total		458	100.0		

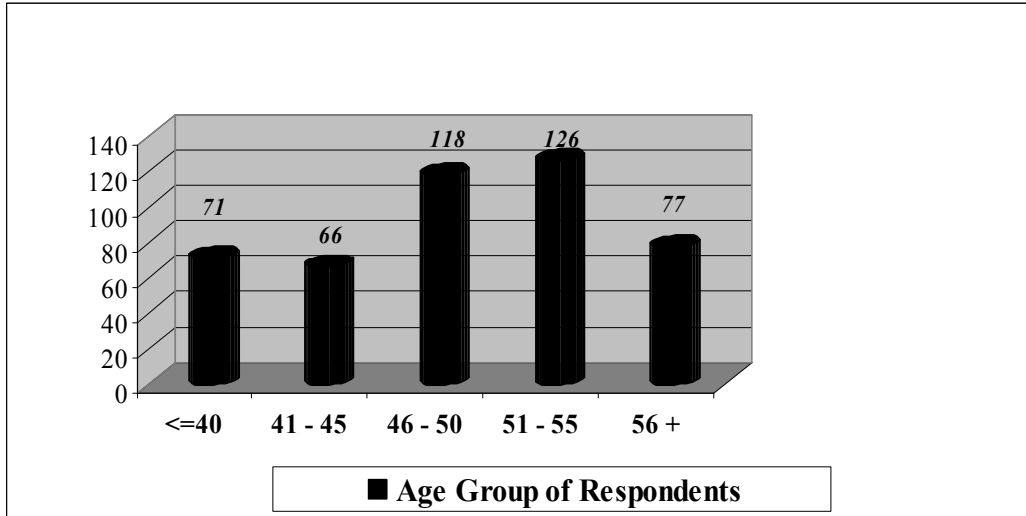
440 respondents provided the mailing zip code address of their work location. This data shows that 91.3 % of respondents worked in an urban location in the province. This data indicates that the survey has an urban bias.

**Table 6.4: Age of Survey Respondents (5 divisions)**

<i>Age Group</i>	<i>Count</i>	<i>Percent</i>
<=40	71	16%
41 - 45	66	14%
46 - 50	118	26%
51 - 55	126	28%
56 +	77	17%
TOTAL	458	100%

Over 71% of respondents were 46 years and older which reflects a similar aging pattern of health-care managers found in the 20000 CCHSE study of Chief Executive Officers. More data on the age of survey respondents can be found in Appendix I.

Figure 6.2 provides a graphical presentation of the data on aging.



**Figure 6.2: Age Group of Respondents**

To assist with later data analysis the categories on aging have been reduced to three as shown in the following table.

**Table 6.5: Age of Survey Respondents (3 divisions)**

**q4gr Age group**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 40 or less	71	15.5	15.5	15.5
41-50	184	40.2	40.2	55.7
51+	203	44.3	44.3	100.0
Total	458	100.0	100.0	

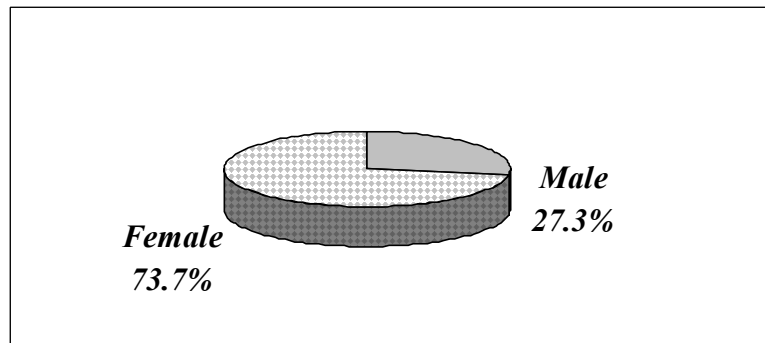
This reduced number of categories shows that 84.5 % of respondents were 41 years and older.

**Table 6.6: Gender of Survey Respondents**

**Q5 Gender**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	125	27.3	27.3	27.3
Female	333	72.7	72.7	100.0
Total	458	100.0	100.0	

The majority (72.7 %) of respondents were female which reflects a female bias in the survey. Figure 6.3 is a graphical presentation of the gender division of the survey.



**Figure 6.3: Gender of Respondents**

**Table 6.7: Undergraduate (UG) Education of Respondents**

**q6gr2 Undergraduate education**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Nursing	136	29.7	36.1	36.1
	Healthcare related	96	21.0	25.5	61.5
	Business / Mgmt	42	9.2	11.1	72.7
	Other UG	103	22.5	27.3	100.0
	Total	377	82.3	100.0	
Missing	No UG degree	81	17.7		
Total		458	100.0		

The majority (82.3%) of respondents have undergraduate education. 50.7 % of respondents have health-related undergraduate education with the majority (29.7%) of that group having a nursing qualification. Of the 31.7 % with non-health undergraduate education, 9.2% had education in business/management 17.7 % of respondents had no undergraduate education.

**Table 6.8: Postgraduate (PG) Education of Respondents**

**q7gr3 Postgraduate education**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Nursing	42	9.2	17.8	17.8
	Healthcare related	31	6.8	13.1	30.9
	Business / Mgmt	106	23.1	44.9	75.8
	Other PG	57	12.4	24.2	100.0
	Total	236	51.5	100.0	
Missing	No PG degree	222	48.5		
Total		458	100.0		

The majority (51.5 %) of respondents have postgraduate education. 35.5 % have postgraduate education in a non-clinical area, with 23.1 % in that category with postgraduate education in business/management. 48.5 % of respondents have no postgraduate education.

**6.9: Respondents with Undergraduate/Postgraduate Education**

**q6gr Undergraduate education \* q7gr2 Postgraduate education Crosstabulation**

Count		q7gr2 Postgraduate education					Total
		Nursing	Healthcare related	Business / Mgmt	Other PG	No PG degree	
q6gr Undergraduate education	Nursing	36	1	35	15	49	136
	Healthcare related	1	18	22	8	47	96
	Business / Mgmt	0	1	22	2	17	42
	Other UG	5	11	27	32	28	103
	No UG degree	0	0	0	0	81	81
Total		42	31	106	57	222	458

Those with undergraduate education in nursing pursued postgraduate education in nursing (26.5%) or business/management (25.7%). Those with undergraduate education in a healthcare related area pursued postgraduate education in business management (22.9%) or healthcare related (18.7%). The majority (52.4%) of those with business/management undergraduate education have continued their postgraduate education in the same area. Those with other non-healthcare related undergraduate education have mainly (26.6%) pursued a business/management postgraduate education. The largest percentage (23.1 %) of respondents with undergraduate education pursued business/management postgraduate education.



## 6.10: Undergraduate/Postgraduate, Clinical/Business Education

ugppeduc Undergraduate / Postgraduate Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	At least 1 Clinical degree	191	41.7	41.7	41.7
	At least 1 Business degree	68	14.8	14.8	56.6
	Both Clinical and Business degrees	58	12.7	12.7	69.2
	Degree but not Clinical or Business	60	13.1	13.1	82.3
	No degree at all	81	17.7	17.7	100.0
	Total	458	100.0	100.0	

The largest number (41.7%) of respondents have clinical undergraduate and/or postgraduate education. 14.8 % of respondents have either undergraduate or postgraduate business education. 12.7 % of respondents have both a clinical and business undergraduate and/or postgraduate education. There are 13.1% of respondents with undergraduate/postgraduate education in neither a clinical or business area .

### 6.11: Undergraduate/Postgraduate, Clinical/Business Education by Gender

Cross-tabulation by question 6(undergraduate)/question 7(postgraduate) and question 5 (gender).

**ugppeduc Undergraduate / Postgraduate Education \* Q5 Gender Crosstabulation**

			Q5 Gender		Total
			Male	Female	
ugppeduc Undergraduate / Postgraduate Education	At least 1 Clinical degree	Count	34	157	191
		Expected Count	52.1	138.9	191.0
		% within ugppeduc Undergraduate / Postgraduate Education	17.8%	82.2%	100.0%
		% within Q5 Gender	27.2%	47.1%	41.7%
	At least 1 Business degree	Count	34	34	68
		Expected Count	18.6	49.4	68.0
		% within ugppeduc Undergraduate / Postgraduate Education	50.0%	50.0%	100.0%
		% within Q5 Gender	27.2%	10.2%	14.8%
	Both Clinical and Business degrees	Count	9	49	58
		Expected Count	15.8	42.2	58.0
		% within ugppeduc Undergraduate / Postgraduate Education	15.5%	84.5%	100.0%
		% within Q5 Gender	7.2%	14.7%	12.7%
	Degree but not Clinical or Business	Count	22	38	60
		Expected Count	16.4	43.6	60.0
		% within ugppeduc Undergraduate / Postgraduate Education	36.7%	63.3%	100.0%
		% within Q5 Gender	17.6%	11.4%	13.1%
No degree at all	Count	26	55	81	
	Expected Count	22.1	58.9	81.0	
	% within ugppeduc Undergraduate / Postgraduate Education	32.1%	67.9%	100.0%	
	% within Q5 Gender	20.8%	16.5%	17.7%	
Total	Count	125	333	458	
	Expected Count	125.0	333.0	458.0	
	% within ugppeduc Undergraduate / Postgraduate Education	27.3%	72.7%	100.0%	
	% within Q5 Gender	100.0%	100.0%	100.0%	

Females outnumbered males in all three categories; having at least one clinical degree (82.2%), having both clinical and business degrees (84.5%) and having degrees that were not clinical or business (63.3%). In the category of having at least one business degree males and females were

equally represented. More females (58.9%) have no degree at all. The Chi Square Test [ $\chi^2 (4) = 33.99, p < 0.05$ ] shows that there is a statistically significant association between the two variables.

**Crosstab**

				Q5 Gender		Total
				Male	Female	
anyug Have any UG degree	Yes	Count	99	278	377	
		Expected Count	102.9	274.1	377.0	
		% within anyug Have any UG degree	26.3%	73.7%	100.0%	
		% within Q5 Gender	79.2%	83.5%	82.3%	
	No	Count	26	55	81	
		Expected Count	22.1	58.9	81.0	
		% within anyug Have any UG degree	32.1%	67.9%	100.0%	
		% within Q5 Gender	20.8%	16.5%	17.7%	
Total	Count	125	333	458		
	Expected Count	125.0	333.0	458.0		
	% within anyug Have any UG degree	27.3%	72.7%	100.0%		
	% within Q5 Gender	100.0%	100.0%	100.0%		

Further cross-tabulation to complete Table 6.11.

The majority (73.7%) of respondents who were female had an undergraduate degree. The Chi Square Test [ $\chi^2 (1) = 1.15, p > 0.05$ ] shows that there is no association between the variables.

**Crosstab**

			Q5 Gender		Total
			Male	Female	
anypg Have any PG degree	Yes	Count	68	168	236
		Expected Count	64.4	171.6	236.0
		% within anypg Have any PG degree	28.8%	71.2%	100.0%
		% within Q5 Gender	54.4%	50.5%	51.5%
	No	Count	57	165	222
		Expected Count	60.6	161.4	222.0
		% within anypg Have any PG degree	25.7%	74.3%	100.0%
		% within Q5 Gender	45.6%	49.5%	48.5%
Total	Count	125	333	458	
	Expected Count	125.0	333.0	458.0	
	% within anypg Have any PG degree	27.3%	72.7%	100.0%	
	% within Q5 Gender	100.0%	100.0%	100.0%	

The majority (71.2%) of respondents who were female had postgraduate education. The Chi Square Test [ $\chi^2 (1) = 0.57, p > 0.05$ ] shows that there is no association between the variables.

## 6.12: Undergraduate/Postgraduate, Clinical/Business Education by Age

Cross-tabulation of question 6 (undergraduate)/question 7(postgraduate and question 4 (age)

**uggpeduc Undergraduate / Postgraduate Education \* q4gr Age group Crosstabulation**

			q4gr Age group			Total
			40 or less	41-50	51+	
uggpeduc Undergraduate / Postgraduate Education	At least 1 Clinical degree	Count	19	83	89	191
		Expected Count	29.6	76.7	84.7	191.0
		% within uggpeduc Undergraduate / Postgraduate Education	9.9%	43.5%	46.6%	100.0%
		% within q4gr Age group	26.8%	45.1%	43.8%	41.7%
	At least 1 Business degree	Count	19	23	26	68
		Expected Count	10.5	27.3	30.1	68.0
		% within uggpeduc Undergraduate / Postgraduate Education	27.9%	33.8%	38.2%	100.0%
		% within q4gr Age group	26.8%	12.5%	12.8%	14.8%
	Both Clinical and Business degrees	Count	8	26	24	58
		Expected Count	9.0	23.3	25.7	58.0
		% within uggpeduc Undergraduate / Postgraduate Education	13.8%	44.8%	41.4%	100.0%
		% within q4gr Age group	11.3%	14.1%	11.8%	12.7%
Degree but not Clinical or Business	Count	16	20	24	60	
	Expected Count	9.3	24.1	26.6	60.0	
	% within uggpeduc Undergraduate / Postgraduate Education	26.7%	33.3%	40.0%	100.0%	
	% within q4gr Age group	22.5%	10.9%	11.8%	13.1%	
No degree at all	Count	9	32	40	81	
	Expected Count	12.6	32.5	35.9	81.0	
	% within uggpeduc Undergraduate / Postgraduate Education	11.1%	39.5%	49.4%	100.0%	
	% within q4gr Age group	12.7%	17.4%	19.7%	17.7%	
Total	Count	71	184	203	458	
	Expected Count	71.0	184.0	203.0	458.0	
	% within uggpeduc Undergraduate / Postgraduate Education	15.5%	40.2%	44.3%	100.0%	
	% within q4gr Age group	100.0%	100.0%	100.0%	100.0%	

The largest percentage (46.6%) of respondents with at least one clinical degree are in the 51+ category, followed closely by those 41-50 years of age at 43.5%. The largest percentage (38.2%) of those with at least one business degree are in the 51+ category. The largest percentage (44.8%) of those with both clinical and business degrees are in the 41-50 age group. The largest percentage (40.0%) of those with a degree in neither clinical or business are in the 51+ age group.

15.7% of respondents have no degree at all. The Chi Square Test [ $\chi^2 (8) = 20.37, p < 0.05$ ] shows that there is a statistically significant association between the variables.

Further cross-tabulations to complete Table 6.12.

**Crosstab**

				q4gr Age group			Total
				40 or less	41-50	51+	
anyug Have any UG degree	Yes	Count	62	152	163	377	
		Expected Count	58.4	151.5	167.1	377.0	
		% within anyug Have any UG degree	16.4%	40.3%	43.2%	100.0%	
		% within q4gr Age group	87.3%	82.6%	80.3%	82.3%	
	No	Count	9	32	40	81	
		Expected Count	12.6	32.5	35.9	81.0	
		% within anyug Have any UG degree	11.1%	39.5%	49.4%	100.0%	
		% within q4gr Age group	12.7%	17.4%	19.7%	17.7%	
Total	Count	71	184	203	458		
	Expected Count	71.0	184.0	203.0	458.0		
	% within anyug Have any UG degree	15.5%	40.2%	44.3%	100.0%		
	% within q4gr Age group	100.0%	100.0%	100.0%	100.0%		

The largest percentage (43.2%) of those with an undergraduate degree are 51+ , followed closely by those 41-50 years of age at 40.3%. The Chi Square Test [ $\chi^2 (2) = 1.80, p > 0.05$ ] shows that there is no association between the variables.

**Crosstab**

				q4gr Age group			Total
				40 or less	41-50	51+	
anypg Have any PG degree	Yes	Count	38	90	108	236	
		Expected Count	36.6	94.8	104.6	236.0	
		% within anypg Have any PG degree	16.1%	38.1%	45.8%	100.0%	
		% within q4gr Age group	53.5%	48.9%	53.2%	51.5%	
	No	Count	33	94	95	222	
		Expected Count	34.4	89.2	98.4	222.0	
		% within anypg Have any PG degree	14.9%	42.3%	42.8%	100.0%	
		% within q4gr Age group	46.5%	51.1%	46.8%	48.5%	
Total	Count	71	184	203	458		
	Expected Count	71.0	184.0	203.0	458.0		
	% within anypg Have any PG degree	15.5%	40.2%	44.3%	100.0%		
	% within q4gr Age group	100.0%	100.0%	100.0%	100.0%		

The largest percentage (45.8 %) of those with a postgraduate degree are 51+ , followed by those 41-50 years of age at 38.1%. The Chi Square Test [ $\chi^2 (2) = 0.84, p > 0.05$ ] shows that there is no association between the variables.

**Table 6.13: Undergraduate/Postgraduate, Clinical/Business Education by Urban/Non-Urban Location**

Cross-tabulation of question 6 (undergraduate)/question 7 (postgraduate) and question 2 (work location).

**ugpgeduc Undergraduate / Postgraduate Education \* q2gr Postcode grouped Crosstabulation**

			q2gr Postcode grouped		Total
			Urban	Rural	
ugpgeduc Undergraduate / Postgraduate Education	At least 1 Clinical degree	Count	171	10	181
		Expected Count	172.0	9.1	181.0
		% within ugpeduc Undergraduate / Postgraduate Education	94.5%	5.5%	100.0%
		% within q2gr Postcode grouped	40.9%	45.5%	41.1%
	At least 1 Business degree	Count	63	1	64
		Expected Count	60.8	3.2	64.0
		% within ugpeduc Undergraduate / Postgraduate Education	98.4%	1.6%	100.0%
		% within q2gr Postcode grouped	15.1%	4.5%	14.5%
	Both Clinical and Business degrees	Count	53	5	58
		Expected Count	55.1	2.9	58.0
		% within ugpeduc Undergraduate / Postgraduate Education	91.4%	8.6%	100.0%
		% within q2gr Postcode grouped	12.7%	22.7%	13.2%
	Degree but not Clinical or Business	Count	55	3	58
		Expected Count	55.1	2.9	58.0
		% within ugpeduc Undergraduate / Postgraduate Education	94.8%	5.2%	100.0%
		% within q2gr Postcode grouped	13.2%	13.6%	13.2%
No degree at all	Count	76	3	79	
	Expected Count	75.1	4.0	79.0	
	% within ugpeduc Undergraduate / Postgraduate Education	96.2%	3.8%	100.0%	
	% within q2gr Postcode grouped	18.2%	13.6%	18.0%	
Total	Count	418	22	440	
	Expected Count	418.0	22.0	440.0	
	% within ugpeduc Undergraduate / Postgraduate Education	95.0%	5.0%	100.0%	
	% within q2gr Postcode grouped	100.0%	100.0%	100.0%	



The largest number (41.1%) of respondents have at least one clinical degree, with the majority of that group (94.5 %) working in urban locations. In all categories the urban areas have the highest percentage of respondents. It is understood that the high percentage of urban respondents in the survey may tend to skew the findings with regard to this item. The Chi Square Test [ $\chi^2 (4) = 3.54$ ,  $p > 0.05$ ] shows that there is no association between the variables.

Further cross-tabulations to complete Table 6.13.

**Crosstab**

				q2gr Postcode grouped		Total
				Urban	Rural	
anyug Have any UG degree	Yes	Count	342	19	361	
		Expected Count	343.0	18.1	361.0	
		% within anyug Have any UG degree	94.7%	5.3%	100.0%	
		% within q2gr Postcode grouped	81.8%	86.4%	82.0%	
	No	Count	76	3	79	
		Expected Count	75.1	4.0	79.0	
		% within anyug Have any UG degree	96.2%	3.8%	100.0%	
		% within q2gr Postcode grouped	18.2%	13.6%	18.0%	
Total	Count	418	22	440		
	Expected Count	418.0	22.0	440.0		
	% within anyug Have any UG degree	95.0%	5.0%	100.0%		
	% within q2gr Postcode grouped	100.0%	100.0%	100.0%		

The majority (94.7%) of respondents with an undergraduate degree work in an urban location. The Chi Square Test [ $\chi^2 (1) = 0.29$ ,  $p > 0.05$ ] shows that there is no association between the variables.

**Crosstab**

			q2gr Postcode grouped		Total
			Urban	Rural	
anypg Have any PG degree	Yes	Count	221	7	228
		Expected Count	216.6	11.4	228.0
		% within anypg Have any PG degree	96.9%	3.1%	100.0%
		% within q2gr Postcode grouped	52.9%	31.8%	51.8%
	No	Count	197	15	212
		Expected Count	201.4	10.6	212.0
		% within anypg Have any PG degree	92.9%	7.1%	100.0%
		% within q2gr Postcode grouped	47.1%	68.2%	48.2%
Total	Count	418	22	440	
	Expected Count	418.0	22.0	440.0	
	% within anypg Have any PG degree	95.0%	5.0%	100.0%	
	% within q2gr Postcode grouped	100.0%	100.0%	100.0%	

The majority (96.9 %) of respondents with postgraduate education work in an urban location. The Chi Square Test [ $\chi^2 (1) = 3.71, p > 0.05$ ] shows that there is no association between the variables.

**6.14: Respondents With Either/Both Undergraduate and Postgraduate Education**

**Qualifications**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Have UG degree	141	30.8	30.8	30.8
	Have both UG and PG degrees	236	51.5	51.5	82.3
	Do not have a degree	81	17.7	17.7	100.0
Total		458	100.0	100.0	

The majority (51.5%) of respondents have both undergraduate and postgraduate education. 30.8 % have just undergraduate education while 17.7% have no degree.

Crosstab

			havedegree Qualifications			Total
			Have UG degree	Have both UG and PG degrees	Do not have a degree	
q6gr Undergraduate education	Nursing	Count	49	87	0	136
		Expected Count	41.9	70.1	24.1	136.0
		% within q6gr Undergraduate education	36.0%	64.0%	.0%	100.0%
		% within havedegree Qualifications	34.8%	36.9%	.0%	29.7%
	Healthcare related	Count	47	49	0	96
		Expected Count	29.6	49.5	17.0	96.0
		% within q6gr Undergraduate education	49.0%	51.0%	.0%	100.0%
		% within havedegree Qualifications	33.3%	20.8%	.0%	21.0%
	Business / Mgmt	Count	17	25	0	42
		Expected Count	12.9	21.6	7.4	42.0
		% within q6gr Undergraduate education	40.5%	59.5%	.0%	100.0%
		% within havedegree Qualifications	12.1%	10.6%	.0%	9.2%
	Other UG	Count	28	75	0	103
		Expected Count	31.7	53.1	18.2	103.0
		% within q6gr Undergraduate education	27.2%	72.8%	.0%	100.0%
		% within havedegree Qualifications	19.9%	31.8%	.0%	22.5%
No UG degree	Count	0	0	81	81	
	Expected Count	24.9	41.7	14.3	81.0	
	% within q6gr Undergraduate education	.0%	.0%	100.0%	100.0%	
	% within havedegree Qualifications	.0%	.0%	100.0%	17.7%	
Total	Count	141	236	81	458	
	Expected Count	141.0	236.0	81.0	458.0	
	% within q6gr Undergraduate education	30.8%	51.5%	17.7%	100.0%	
	% within havedegree Qualifications	100.0%	100.0%	100.0%	100.0%	

Those with undergraduate education in nursing have the highest percentage (36.9 %) of both undergraduate/postgraduate education, followed by those with ‘other’ undergraduate education at 31.8 %. The Chi Square Test [ $\chi^2 (8) = 470.57, p < 0.05$ ] shows that there is a statistically significant association between the variables.

Crosstab

			havedegree Qualifications			Total
			Have UG degree	Have both UG and PG degrees	Do not have a degree	
q7gr2 Postgraduate education	Nursing	Count	0	42	0	42
		Expected Count	12.9	21.6	7.4	42.0
		% within q7gr2 Postgraduate education	.0%	100.0%	.0%	100.0%
		% within havedegree Qualifications	.0%	17.8%	.0%	9.2%
	Healthcare related	Count	0	31	0	31
		Expected Count	9.5	16.0	5.5	31.0
		% within q7gr2 Postgraduate education	.0%	100.0%	.0%	100.0%
		% within havedegree Qualifications	.0%	13.1%	.0%	6.8%
	Business / Mgmt	Count	0	106	0	106
		Expected Count	32.6	54.6	18.7	106.0
		% within q7gr2 Postgraduate education	.0%	100.0%	.0%	100.0%
		% within havedegree Qualifications	.0%	44.9%	.0%	23.1%
	Other PG	Count	0	57	0	57
		Expected Count	17.5	29.4	10.1	57.0
		% within q7gr2 Postgraduate education	.0%	100.0%	.0%	100.0%
		% within havedegree Qualifications	.0%	24.2%	.0%	12.4%
No PG degree	Count	141	0	81	222	
	Expected Count	68.3	114.4	39.3	222.0	
	% within q7gr2 Postgraduate education	63.5%	.0%	36.5%	100.0%	
	% within havedegree Qualifications	100.0%	.0%	100.0%	48.5%	
Total	Count	141	236	81	458	
	Expected Count	141.0	236.0	81.0	458.0	
	% within q7gr2 Postgraduate education	30.8%	51.5%	17.7%	100.0%	
	% within havedegree Qualifications	100.0%	100.0%	100.0%	100.0%	

Those with postgraduate education in business/management have the highest percentage (44.9 %) of both undergraduate/postgraduate education, followed by those with 'other' postgraduate education at 24.2 %. The Chi Square Test [ $\chi^2 (8) = 458.00, p < 0.05$ ] shows that there is a statistically significant association between the variables.

In summary, Tables 6.3 to 6.14 on demographics found that the majority of respondents were female (72.7%), 46 years and older (71.0%), with undergraduate education (82.3%), and

postgraduate education (51.5%). 17.7% have no undergraduate education and 48.5% have no postgraduate education. The findings show a female and urban bias.

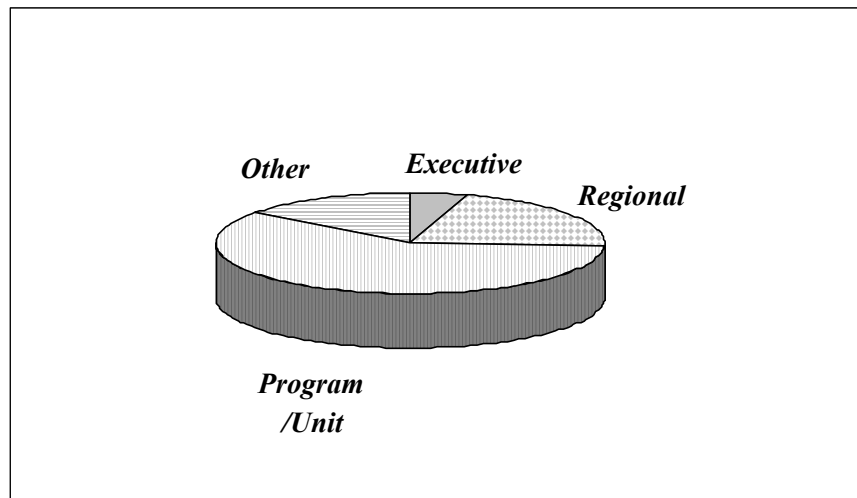
### 6.2.3 Management Level

Tables 6.15 to 6.25 provide data on the management level of survey respondents. This review will include separate data on nursing managers.

**Table 6.15: Management Level of Survey Respondents**

<i>Management Level</i>	<i>Count</i>	<i>Percent</i>
Executive	22	5%
Regional	96	21%
Program/Unit	273	60%
Other	67	14%
No Response	0	0%
TOTAL	458	100%

The majority (81%) of respondents were from middle management (i.e. regional or program/unit) which means that the survey data is mainly from managers in the frontline of the health industry, where the largest percentage of managers currently reside. The only explanation that can be given for the 14% who identified themselves as ‘belonging to none’ of the listed categories is perhaps the respondent did not recognize the categories as pertinent to their position, he/she was in an intermediate management position or in a new management position. Figure 6.4 provides a graphical presentation of the management level data.



**Figure 6.4: Management Level of Respondents**

**Table 6.16: Management Level by Gender**

Data from questions 3 (management level) and question 5 (gender) of the survey are compared in the following cross-tabulation table.

**Q3 Current management level \* Q5 Gender Crosstabulation**

			Q5 Gender		Total
			Male	Female	
Q3 Current management level	Executive	Count	9	13	22
		Expected Count	6.0	16.0	22.0
		% within Q3 Current management level	40.9%	59.1%	100.0%
		% within Q5 Gender	7.2%	3.9%	4.8%
	Regional	Count	45	51	96
		Expected Count	26.2	69.8	96.0
		% within Q3 Current management level	46.9%	53.1%	100.0%
		% within Q5 Gender	36.0%	15.3%	21.0%
	Program / Unit	Count	58	215	273
		Expected Count	74.5	198.5	273.0
		% within Q3 Current management level	21.2%	78.8%	100.0%
		% within Q5 Gender	46.4%	64.6%	59.6%
	None of the above	Count	13	54	67
		Expected Count	18.3	48.7	67.0
		% within Q3 Current management level	19.4%	80.6%	100.0%
		% within Q5 Gender	10.4%	16.2%	14.6%
Total	Count	125	333	458	
	Expected Count	125.0	333.0	458.0	
	% within Q3 Current management level	27.3%	72.7%	100.0%	
	% within Q5 Gender	100.0%	100.0%	100.0%	

The majority of survey respondents were female (72.7%), with females outnumbering the males in all three levels of management. At the Executive (i.e. CEO-level) management level, females were at 59.1% compared to males at 40.9%. At the regional management level, females were at 53.1% to males at 46.9%. At the program (i.e. frontline) management level, females were at 78.8% to males at 21.2%. The data shows that the survey data has a female bias. The Chi Square Test [ $\chi^2(3) = 27.74, p < 0.05$ ] shows that there is a statistically significant association between the two variables.

**Table 6.17: Management Level by Undergraduate (UG) Education**

Cross-tabulation of question 6 (undergraduate education) and question 3 (management level).

**q6gr Undergraduate education \* newq3 Current management level Crosstabulation**

			newq3 Current management level			Total
			Executive	Regional	Program	
q6gr Undergraduate education	Nursing	Count	5	23	94	122
		Expected Count	6.9	30.0	85.2	122.0
		% within q6gr Undergraduate education	4.1%	18.9%	77.0%	100.0%
		% within newq3 Current management level	22.7%	24.0%	34.4%	31.2%
	Healthcare related	Count	4	11	74	89
		Expected Count	5.0	21.9	62.1	89.0
		% within q6gr Undergraduate education	4.5%	12.4%	83.1%	100.0%
		% within newq3 Current management level	18.2%	11.5%	27.1%	22.8%
	Business / Mgmt	Count	4	18	13	35
		Expected Count	2.0	8.6	24.4	35.0
		% within q6gr Undergraduate education	11.4%	51.4%	37.1%	100.0%
		% within newq3 Current management level	18.2%	18.8%	4.8%	9.0%
	Other UG	Count	8	25	46	79
		Expected Count	4.4	19.4	55.2	79.0
		% within q6gr Undergraduate education	10.1%	31.6%	58.2%	100.0%
		% within newq3 Current management level	36.4%	26.0%	16.8%	20.2%
No UG degree	Count	1	19	46	66	
	Expected Count	3.7	16.2	46.1	66.0	
	% within q6gr Undergraduate education	1.5%	28.8%	69.7%	100.0%	
	% within newq3 Current management level	4.5%	19.8%	16.8%	16.9%	
Total	Count	22	96	273	391	
	Expected Count	22.0	96.0	273.0	391.0	
	% within q6gr Undergraduate education	5.6%	24.6%	69.8%	100.0%	
	% within newq3 Current management level	100.0%	100.0%	100.0%	100.0%	

The majority of those with a nursing (77.0 %), other health-related (83.1 %) and other undergraduate education (58.2 %) are in the program level of management. The majority (51.4 %) of those with business undergraduate education are in the regional management level. 36.4 % of executive and 26.0 % of regional managers have non-clinical, non-business undergraduate education. The majority (69.7 %) of those with no undergraduate education are in the program level of management. 28.8 % of those with no undergraduate education are in the

regional management level. The Chi Square Test [ $\chi^2(8) = 40.8, p < 0.05$ ] shows that there is a statistically significant association between the two variables.

**Table 6.18: Management Level by Postgraduate (PG) Education**

Cross-tabulation of question 6 (undergraduate)/question 7(postgraduate) and question 3 (management level)

**q7gr2 Postgraduate education \* newq3 Current management level Crosstabulation**

			newq3 Current management level			Total
			Executive	Regional	Program	
q7gr2 Postgraduate education	Nursing	Count	2	8	28	38
		Expected Count	2.1	9.3	26.5	38.0
		% within q7gr2 Postgraduate education	5.3%	21.1%	73.7%	100.0%
		% within newq3 Current management level	9.1%	8.3%	10.3%	9.7%
	Healthcare related	Count	3	6	22	31
		Expected Count	1.7	7.6	21.6	31.0
		% within q7gr2 Postgraduate education	9.7%	19.4%	71.0%	100.0%
		% within newq3 Current management level	13.6%	6.3%	8.1%	7.9%
	Business / Mgmt	Count	9	28	51	88
		Expected Count	5.0	21.6	61.4	88.0
		% within q7gr2 Postgraduate education	10.2%	31.8%	58.0%	100.0%
		% within newq3 Current management level	40.9%	29.2%	18.7%	22.5%
	Other PG	Count	5	14	30	49
		Expected Count	2.8	12.0	34.2	49.0
		% within q7gr2 Postgraduate education	10.2%	28.6%	61.2%	100.0%
		% within newq3 Current management level	22.7%	14.6%	11.0%	12.5%
No PG degree	Count	3	40	142	185	
	Expected Count	10.4	45.4	129.2	185.0	
	% within q7gr2 Postgraduate education	1.6%	21.6%	76.8%	100.0%	
	% within newq3 Current management level	13.6%	41.7%	52.0%	47.3%	
Total	Count	22	96	273	391	
	Expected Count	22.0	96.0	273.0	391.0	
	% within q7gr2 Postgraduate education	5.6%	24.6%	69.8%	100.0%	
	% within newq3 Current management level	100.0%	100.0%	100.0%	100.0%	



The highest percentage (22.5 %) of respondents have postgraduate education in business/management, with executives at 40.9 % having the most education. Postgraduate education in the clinical area (nursing and health-related) is lower with nursing at 9.7 % and health-related at 7.9 %. Respondents with no postgraduate education are 13.6 % at the executive management level, 41.7 % at the regional level and 52.0 % at the program level. This data shows that just over 52% of program level managers, the largest number of managers in the industry, do not have postgraduate education. The Chi Square Test [ $\chi^2 (8) = 18.37, p < 0.05$ ] shows that there is a statistically significant association between the two variables.

**Table 6.19: Undergraduate/Postgraduate, Clinical/Business Education by Management Level**

Cross-tabulation of question 6 (undergraduate) and question 7(postgraduate) and question 3 (management level).

**ugppeduc Undergraduate / Postgraduate Education \* newq3 Current management level Crosstabulation**

			newq3 Current management level			Total
			Executive	Regional	Program	
ugppeduc Undergraduate / Postgraduate Education	At least 1 Clinical degree	Count	5	27	143	175
		Expected Count	9.8	43.0	122.2	175.0
		% within ugppeduc Undergraduate / Postgraduate Education	2.9%	15.4%	81.7%	100.0%
		% within newq3 Current management level	22.7%	28.1%	52.4%	44.8%
	At least 1 Business degree	Count	5	28	19	52
		Expected Count	2.9	12.8	36.3	52.0
		% within ugppeduc Undergraduate / Postgraduate Education	9.6%	53.8%	36.5%	100.0%
		% within newq3 Current management level	22.7%	29.2%	7.0%	13.3%
	Both Clinical and Business degrees	Count	6	9	38	53
		Expected Count	3.0	13.0	37.0	53.0
		% within ugppeduc Undergraduate / Postgraduate Education	11.3%	17.0%	71.7%	100.0%
		% within newq3 Current management level	27.3%	9.4%	13.9%	13.6%
Degree but not Clinical or Business	Count	5	13	27	45	
	Expected Count	2.5	11.0	31.4	45.0	
	% within ugppeduc Undergraduate / Postgraduate Education	11.1%	28.9%	60.0%	100.0%	
	% within newq3 Current management level	22.7%	13.5%	9.9%	11.5%	
No degree at all	Count	1	19	46	66	
	Expected Count	3.7	16.2	46.1	66.0	
	% within ugppeduc Undergraduate / Postgraduate Education	1.5%	28.8%	69.7%	100.0%	
	% within newq3 Current management level	4.5%	19.8%	16.8%	16.9%	
Total	Count	22	96	273	391	
	Expected Count	22.0	96.0	273.0	391.0	
	% within ugppeduc Undergraduate / Postgraduate Education	5.6%	24.6%	69.8%	100.0%	
	% within newq3 Current management level	100.0%	100.0%	100.0%	100.0%	

The executive level managers have the highest level (95.4% ) of undergraduate/postgraduate education. The next highest (83.2%) is at the program management level. The regional management level has the least (80.2% ) undergraduate/postgraduate education. 44.8% of respondents have at least one clinical degree with the majority of that group at the program management level. The majority (53.8%) with at least one business degree is at the regional management level. 71.7% of those with both clinical and business education are at the program level. 60% of those with a degree which is neither clinical or business are at the program management level. The Chi Square Test [ $\chi^2 (8) = 49.91, p < 0.05$ ] shows that there is a statistically significant association between the two variables.

Additional cross-tabulations to complete Table 6.19.

**Crosstab**

			newq3 Current management level			Total
			Executive	Regional	Program	
anyug Have any UG degree	Yes	Count	21	77	227	325
		Expected Count	18.3	79.8	226.9	325.0
		% within anyug Have any UG degree	6.5%	23.7%	69.8%	100.0%
		% within newq3 Current management level	95.5%	80.2%	83.2%	83.1%
	No	Count	1	19	46	66
		Expected Count	3.7	16.2	46.1	66.0
		% within anyug Have any UG degree	1.5%	28.8%	69.7%	100.0%
		% within newq3 Current management level	4.5%	19.8%	16.8%	16.9%
Total	Count	22	96	273	391	
	Expected Count	22.0	96.0	273.0	391.0	
	% within anyug Have any UG degree	5.6%	24.6%	69.8%	100.0%	
	% within newq3 Current management level	100.0%	100.0%	100.0%	100.0%	

The majority (69.8%) of respondents with undergraduate education are at the program management level. The Chi Square Test [ $\chi^2 (2) = 2.97, p > 0.05$ ] shows that there is no association between the two variables.

Crosstab

				newq3 Current management level			Total
				Executive	Regional	Program	
anypg Have any PG degree	Yes	Count	19	56	131	206	
		Expected Count	11.6	50.6	143.8	206.0	
		% within anypg Have any PG degree	9.2%	27.2%	63.6%	100.0%	
		% within newq3 Current management level	86.4%	58.3%	48.0%	52.7%	
	No	Count	3	40	142	185	
		Expected Count	10.4	45.4	129.2	185.0	
		% within anypg Have any PG degree	1.6%	21.6%	76.8%	100.0%	
		% within newq3 Current management level	13.6%	41.7%	52.0%	47.3%	
Total	Count	22	96	273	391		
	Expected Count	22.0	96.0	273.0	391.0		
	% within anypg Have any PG degree	5.6%	24.6%	69.8%	100.0%		
	% within newq3 Current management level	100.0%	100.0%	100.0%	100.0%		

The majority (63.6%) of respondents with postgraduate education are at the program management level. The Chi Square Test [ $\chi^2 (2) = 13.66, p < 0.05$ ] shows that there is a statistically significant association between the two variables.

## 6.20: Nursing Education by Management Level

**newq3 Current management level \* nurseed Have any Nursing education  
Crosstabulation**

			nurseed Have any Nursing education		Total
			Yes	No	
newq3 Current management level	Executive	Count	5	17	22
		Expected Count	7.2	14.8	22.0
		% within newq3 Current management level	22.7%	77.3%	100.0%
		% within nurseed Have any Nursing education	3.9%	6.5%	5.6%
	Regional	Count	23	73	96
		Expected Count	31.4	64.6	96.0
		% within newq3 Current management level	24.0%	76.0%	100.0%
		% within nurseed Have any Nursing education	18.0%	27.8%	24.6%
	Program	Count	100	173	273
		Expected Count	89.4	183.6	273.0
		% within newq3 Current management level	36.6%	63.4%	100.0%
		% within nurseed Have any Nursing education	78.1%	65.8%	69.8%
Total	Count	128	263	391	
	Expected Count	128.0	263.0	391.0	
	% within newq3 Current management level	32.7%	67.3%	100.0%	
	% within nurseed Have any Nursing education	100.0%	100.0%	100.0%	

The majority (78.1%) of those with nursing education are in the program management level with only 3.9 % in the executive management level. The Chi Square Test [ $\chi^2 (2) = 6.24, p < 0.05$ ] shows that there is a statistically significant association between the two variables.

## 6.21: Nursing Managers by Gender

**Q5 Gender \* nurseed Have any Nursing education Crosstabulation**

			nurseed Have any Nursing education		Total
			Yes	No	
Q5 Gender	Male	Count	7	118	125
		Expected Count	38.8	86.2	125.0
		% within Q5 Gender	5.6%	94.4%	100.0%
		% within nurseed Have any Nursing education	4.9%	37.3%	27.3%
	Female	Count	135	198	333
		Expected Count	103.2	229.8	333.0
		% within Q5 Gender	40.5%	59.5%	100.0%
		% within nurseed Have any Nursing education	95.1%	62.7%	72.7%
Total	Count	142	316	458	
	Expected Count	142.0	316.0	458.0	
	% within Q5 Gender	31.0%	69.0%	100.0%	
	% within nurseed Have any Nursing education	100.0%	100.0%	100.0%	

95.1% of nursing managers are female. The Chi Square Test [ $\chi^2(1) = 51.87, p < 0.05$ ] shows that there is a statistically significant association between the two variables.

## 6.22: Nursing Managers by Age

Crosstab

			nurseed Have any Nursing education		Total
			Yes	No	
q4gr Age group	40 or less	Count	11	60	71
		Expected Count	22.0	49.0	71.0
		% within q4gr Age group	15.5%	84.5%	100.0%
		% within nurseed Have any Nursing education	7.7%	19.0%	15.5%
	41-50	Count	66	118	184
		Expected Count	57.0	127.0	184.0
		% within q4gr Age group	35.9%	64.1%	100.0%
		% within nurseed Have any Nursing education	46.5%	37.3%	40.2%
	51+	Count	65	138	203
		Expected Count	62.9	140.1	203.0
		% within q4gr Age group	32.0%	68.0%	100.0%
		% within nurseed Have any Nursing education	45.8%	43.7%	44.3%
Total	Count	142	316	458	
	Expected Count	142.0	316.0	458.0	
	% within q4gr Age group	31.0%	69.0%	100.0%	
	% within nurseed Have any Nursing education	100.0%	100.0%	100.0%	

The majority (92.3%) of nursing managers are over 41 years of age. The Chi Square Test [ $\chi^2 (2) = 10.12, p < 0.05$ ] shows that there is a statistically significant association between the two variables.

### 6.23: Nursing Managers by Urban/Non-urban Location

q2gr Postcode grouped \* nurseed Have any Nursing education Crosstabulation

			nurseed Have any Nursing education		Total
			Yes	No	
q2gr Postcode grouped	Urban	Count	128	290	418
		Expected Count	131.1	286.9	418.0
		% within q2gr Postcode grouped	30.6%	69.4%	100.0%
		% within nurseed Have any Nursing education	92.8%	96.0%	95.0%
	Rural	Count	10	12	22
		Expected Count	6.9	15.1	22.0
		% within q2gr Postcode grouped	45.5%	54.5%	100.0%
		% within nurseed Have any Nursing education	7.2%	4.0%	5.0%
Total	Count	138	302	440	
	Expected Count	138.0	302.0	440.0	
	% within q2gr Postcode grouped	31.4%	68.6%	100.0%	
	% within nurseed Have any Nursing education	100.0%	100.0%	100.0%	

The majority (92.8%) of nursing managers work in an urban location. The Chi Square Test [ $\chi^2$  (1) = 2.14,  $p > 0.05$ ] shows that there is no association between the two variables.



## 6.24: Nursing Management and Postgraduate Education

anypg Have any PG degree \* nurseed Have any Nursing education Crosstabulation

			nurseed Have any Nursing education		Total
			Yes	No	
anypg Have any PG degree	Yes	Count	93	143	236
		Expected Count	73.2	162.8	236.0
		% within anypg Have any PG degree	39.4%	60.6%	100.0%
		% within nurseed Have any Nursing education	65.5%	45.3%	51.5%
	No	Count	49	173	222
		Expected Count	68.8	153.2	222.0
		% within anypg Have any PG degree	22.1%	77.9%	100.0%
		% within nurseed Have any Nursing education	34.5%	54.7%	48.5%
Total	Count	142	316	458	
	Expected Count	142.0	316.0	458.0	
	% within anypg Have any PG degree	31.0%	69.0%	100.0%	
	% within nurseed Have any Nursing education	100.0%	100.0%	100.0%	

39.4% of nursing managers have postgraduate education. The Chi Square Test [ $\chi^2 (1) = 16.07, p < 0.05$ ] shows that there is a statistically significant association between the variables.

## 6.25: Nursing Managers and Management Training

**q8gr Ever undertaken management education course \* nurseed Have any Nursing education Crosstabulation**

				nurseed Have any Nursing education		Total
				Yes	No	
q8gr Ever undertaken management education course	Yes	Count	137	307	444	
		Expected Count	135.9	308.1	444.0	
		% within q8gr Ever undertaken management education course	30.9%	69.1%	100.0%	
		% within nurseed Have any Nursing education	98.6%	97.5%	97.8%	
	No	Count	2	8	10	
		Expected Count	3.1	6.9	10.0	
		% within q8gr Ever undertaken management education course	20.0%	80.0%	100.0%	
		% within nurseed Have any Nursing education	1.4%	2.5%	2.2%	
Total	Count	139	315	454		
	Expected Count	139.0	315.0	454.0		
	% within q8gr Ever undertaken management education course	30.6%	69.4%	100.0%		
	% within nurseed Have any Nursing education	100.0%	100.0%	100.0%		

30.9% of nursing managers have had management training. The Chi Square Test [ $\chi^2(1) = 0.54$ ,  $p > 0.05$ ] shows that there is no significant association between the variables.

In summary, Tables 6.15 to 6.25 on management level found that 81% of respondents were from the regional/program management level (or middle management) levels of the health industry. At the program management level the majority (78.1%) were nursing managers; mainly females, over 41 years of age, working in urban locations. 39.4% of nursing managers have postgraduate education and 30.9% have had some form of management training. 69.7% of program managers have no undergraduate education. Executive level managers have the most education. Females outnumber males at all three levels of management.

## 6.2.4 Management Education

Tables 6.26 to 6.37 provides data on management education of respondents. The first two tables (i.e. Tables 6.26 to 6.27) provides information on whether respondents have been able to access management education in recent years. The remainder of the tables in this section examines where respondents acquired their competency education, how they rate themselves with regard to a number of competencies, and how this rating compares to their learning needs.

### 6.26: Latest Management Education

**q8gr2 Last management education course**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	In last 12 months	304	66.4	67.0	67.0
	2+ year	140	30.6	30.8	97.8
	Never	10	2.2	2.2	100.0
	Total	454	99.1	100.0	
Missing	System	4	.9		
Total		458	100.0		

**q8gr Ever undertaken management education course**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	444	96.9	97.8	97.8
	No	10	2.2	2.2	100.0
	Total	454	99.1	100.0	
Missing	System	4	.9		
Total		458	100.0		

The above two tables show that the majority (96.9 %) of respondents have taken some management training with the majority (66.4 %) attending some training in the last twelve months. Only 2.2 % have had no management training.

## 6.27: Latest Management Education and Undergraduate/Postgraduate Education

q8gr2 Last management education course \* havedegree Qualifications Crosstabulation

			havedegree Qualifications			Total
			Have UG degree	Have both UG and PG degrees	Do not have a degree	
q8gr2 Last management education course	In last 12 months	Count	101	148	55	304
		Expected Count	93.7	156.7	53.6	304.0
		% within q8gr2 Last management education course	33.2%	48.7%	18.1%	100.0%
		% within havedegree Qualifications	72.1%	63.2%	68.8%	67.0%
	2+ year	Count	35	81	24	140
		Expected Count	43.2	72.2	24.7	140.0
		% within q8gr2 Last management education course	25.0%	57.9%	17.1%	100.0%
		% within havedegree Qualifications	25.0%	34.6%	30.0%	30.8%
	Never	Count	4	5	1	10
		Expected Count	3.1	5.2	1.8	10.0
		% within q8gr2 Last management education course	40.0%	50.0%	10.0%	100.0%
		% within havedegree Qualifications	2.9%	2.1%	1.3%	2.2%
Total	Count	140	234	80	454	
	Expected Count	140.0	234.0	80.0	454.0	
	% within q8gr2 Last management education course	30.8%	51.5%	17.6%	100.0%	
	% within havedegree Qualifications	100.0%	100.0%	100.0%	100.0%	

The majority (67.0%) of respondents have attended management training in the last 12 months with the majority (72.1%) of that group being those with undergraduate education followed by those with no degree education (68.8%). The Chi Square Test [ $\chi^2(4) = 4.34, p > 0.05$ ] shows that there is no significant association between the variables.

In summary, Tables 6.26 and 6.27 on the latest management education found that 96.9% of respondents have taken some management training with 67.0% attending a management education course in the last 12 months. The majority taking management education training have undergraduate education or no degree.

In the following tables (i.e. 6.28 to 6.37) data will be presented on 14 competencies which were used in the web-based survey instrument. These 14 competencies are:

- Evidence-based management (EV)
- Use of statistics (STAT)
- Communications and information technology use (COMMS)
- Governance and policy development (GOV)
- Leadership skills (LEAD)
- Conflict management (CM)
- Change and complexity (CC)
- Evaluating management plans (EMP)
- Environmental and risk management (ERM)
- Quality improvement (QI)
- Human resource management (HRM)
- Financial analysis (FA)
- Project management (PM)
- Contract management (Contract)

In Table 6.28 the data shows the number and percentage of those who have no training in the above fourteen competencies. Table 6.29 the data shows the number and percentage of those who have had formal training. Table 6.30 the data shows how respondents rate themselves with regard to the fourteen competencies.

### 6.28: Competency Education by Delivery Method – No Formal Education

Learning Format	No Course	
	Count	%
EV	171	37%
STAT	113	25%
COMMS	68	15%
GOV	171	37%
LEAD	29	6%
CM	59	13%
CC	68	15%
EMP	220	48%
ERM	166	36%
QI	90	20%
HRM	87	19%
FA	151	33%
PM	169	37%
Contract	268	59%
Total	1830	29%

29% of survey respondents have had no training in the fourteen competencies. The data shows that survey respondents have received the least training in contract management (Contract) at 59%, evaluating management plans (EMP) at 48%, project management (PM), evidence-based management and governance and policy management at 37% respectively, environmental and risk management (ERM) at 36%, financial analysis (FA) at 33%. The low percentages for the people skills [human resource management (HRM), communications and the use of information technologies (COMMS), change and complexity (CC), conflict management (CM), and leadership skills (LEAD)] would indicate that there is more training occurring in these skills.

### 6.29: Competency Education by Delivery Method – Formal Education

In the following table data has been grouped into 4 categories IW= which includes in-service and workshop training, CD = certificate and diploma education, UG=undergraduate education and PG = postgraduate. More detailed data can be found in Appendix I.

Learning Format	<i>IW</i>		<i>CD</i>		<i>UG</i>		<i>PG</i>		<i>Total</i>
	Count	%	Count	%	Count	%	Count	%	Count
EV	141	51%	45	16%	31	11%	62	22%	279
STAT	62	19%	51	16%	102	31%	113	34%	328
COMMS	246	65%	42	11%	35	9%	58	15%	381
GOV	128	47%	36	13%	35	13%	74	27%	273
LEAD	195	46%	94	22%	33	8%	103	24%	425
CM	247	63%	71	18%	23	6%	51	13%	392
CC	236	61%	37	10%	27	7%	85	22%	385
EMP	113	50%	32	14%	15	7%	65	29%	225
ERM	216	76%	30	11%	14	5%	25	9%	285
QI	270	75%	48	13%	12	3%	32	9%	362
HRM	209	57%	67	18%	32	9%	59	16%	367
FA	152	50%	55	18%	33	11%	61	20%	301
PM	184	65%	46	16%	13	5%	41	14%	284
Contract	131	72%	29	16%	7	4%	16	9%	183
Total	2530	57%	683	15%	412	9%	845	19%	4470

57% of all skill training for survey respondents is through in-service and workshops, with the least amount (9%) through undergraduate education. The majority of survey respondents have received their formal education through in-service and workshops for the following competency skills: environmental and risk management (ERM) at 76%, Quality Improvement (QI) at 75%, contract management (Contract) at 72%, project management (PM) and communications and information technology use (COMMS) at 65% respectively, conflict management (CM) at 63%, change and complexity (CC) at 61%, human resource management (HRM) at 57%, and evidence-based management (EV) at 51%. In other competencies, the largest percentage of respondents received their formal education through in-service and workshops in the following competencies: evaluating management plans (EMP) and financial analysis (FA) at 50% respectively, governance and policy development (GOV) at 47%, leadership skills (LEAD) at 46%, and the use of statistics (STAT) at 34%.

### 6.30: Competency Comparison by Averaging

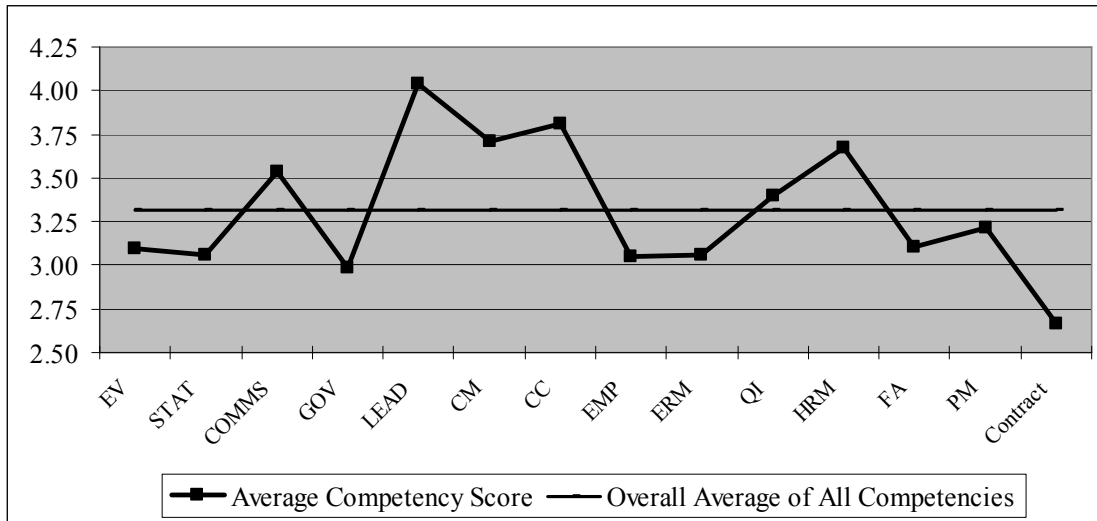
Survey respondents were asked to rank their competencies with regard to the fourteen competencies. The rankings were from 1 to 5 with 1=poor, 2= average, 3=good, 4=very good, and 5= excellent. The following table ranks the responses from the highest to the lowest.

	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>Total Responses</i>	<i>Weighted Score</i>
LEAD	0	9	86	239	122	456	4.04
CC	3	23	126	206	96	454	3.81
CM	3	33	128	220	71	455	3.71
HRM	4	35	137	207	70	453	3.67
COMMS	4	43	174	174	60	455	3.53
QI	5	62	169	182	35	453	3.40
PM	25	85	151	149	42	452	3.22
FA	35	94	155	129	42	455	3.11
EV	40	79	161	138	31	449	3.09
STAT	34	93	166	131	29	453	3.06
ERM	20	99	193	114	25	451	3.06
EMP	29	98	169	130	25	451	3.05
GOV	35	102	176	115	25	453	2.98
Contract	80	118	139	91	18	446	2.66
TOTAL	317	973	2130	2225	691	6336	3.32

The top 5 competencies in which survey respondents felt they had the best skills were leadership skills (LEAD) at 4.04, change and complexity (CC) at 3.81, conflict management (CM) at 3.71, human resource management (HRM) at 3.67 and communication and information technology use (COMS) at 5.53, all competencies in which managers currently receive some form of training. Financial analysis (FA), Project Management (PM) and evidence-based management (EV) sit mid way in the ranking at 3.22, 3.11 and 3.09 respectively, which may indicate that some managers may be receiving some training in these competencies. The lowest rankings were for the use of statistics (STAT) and environmental and risk management (ERM) at 3.06 respectively, evaluating management plans (EMP) at 3.05, governance and policy development(GOV) at 2.98 and contract management (Contract) at 2.66.

The following graph shows the average personal ranking score of the 458 survey respondents.





**Figure 6.5: Average Competency Scores of Learning Formats**

This graph reflects the competency rankings of survey respondents rank with the highest rating in the people skills such as; communications and information technology use (COMMS), leadership (LEAD), conflict management (CM), change and complexity (CC) and human resource management (HRM). Low ranking is evident in Evidence-based management (EV), use of statistics (STAT), governance and policy development (GOV), evaluating management plans (EMP), environmental and risk management (ERM), Quality Improvement (QI), financial analysis (FA), project management (PM) and contract management (Contract). The graphical presentation is consistent with the data presented in the above tables.

### 6.31: Competency Self-rating and Undergraduate/Postgraduate Education

	uggpeduc Undergraduate / Postgraduate Education					
	At least 1 Clinical degree	At least 1 Business degree	Both Clinical and Business	Degree but not Clinical or Business	No degree at all	Total
Evidence-based Management	3.06	3.22	3.76	2.81	2.78	3.09
Use of statistics	2.93	3.40	3.34	3.20	2.79	3.06
Communications & IT use	3.41	3.81	3.72	3.58	3.43	3.53
Governance and Policy Development	2.87	3.10	3.53	2.88	2.84	2.98
Leadership Skills	4.02	3.90	4.34	3.98	4.03	4.04
Conflict Management	3.71	3.60	3.88	3.63	3.74	3.71
Change and Complexity	3.73	3.97	4.17	3.78	3.64	3.81
Evaluating Management Plans	2.87	3.57	3.54	2.97	2.76	3.05
Environmental and Risk Management	3.02	3.04	3.51	2.98	2.88	3.06
Quality Improvement	3.45	3.22	3.79	3.25	3.25	3.40
Human Resource Management	3.56	3.84	3.97	3.60	3.63	3.67
Financial Analysis	2.88	3.79	3.55	2.98	2.84	3.11
Project Management	2.94	3.66	3.63	3.47	3.00	3.22
Contract Management	2.47	3.12	3.05	2.49	2.55	2.66

Taking the lowest five rankings in each category the following table was created:

Competency	1 Clinical Degree	1 Business Degree	Both Clinical & Business	Degree but Neither Clinical or Business	No Degree
Contract Management	1	3	1	1	1
Evaluating Management Plans	2		5	4	2
Governance & Policy Development	3	2	4	3	5
Financial Analysis	4			5	
Use of Statistics	5		2		4
Environmental/Risk Management		1	3		
Quality Assurance		4			
Evidence-based management		5		2	3

The data shows that competency training needs vary by undergraduate/postgraduate education. In this comparison, contract management training would appear to be needed by all groups, with those with a business degree rating this competency differently than the other groups. Evaluating Management Plans is a higher priority for those with one clinical degree and no degree than for other groups. Governance and Policy Development, is a learning needed which is rated differently by the groups. Financial analysis is important to those with a clinical degree and those with neither a clinical or business degree. Use of Statistics is important to those with one clinical degree, those with both a clinical and business degree and those with no degree. Environmental and Risk management is needed for only two groups while quality Assurance is needed by only one. Evidence-based management is needed by only three groups; those with one business

degree, those with neither a clinical or business degree and those with no degree. What is evident is that the greatest competency learning needs are in the area of non-people topics. The above ratings show that irrespective of the educational qualifications respondents rated themselves higher in those competencies dealing with people.

### 6.32: Prior Competency Training and Learning Need Identification

Competency	Q9 Those with no training	Q13 % who ID this learning	Q9 Those with any training	Q13 % who ID this learning
EV	171	38.0%	279	62.0%
STAT	113	25.6%	328	74.4%
COMMS	68	15.1%	381	84.9%
GOV	171	38.5%	273	61.5%
LEAD	29	6.4%	425	93.6%
CM	59	13.1%	392	86.9%
CC	68	15.1%	385	85.0%
EMP	220	49.4%	225	50.6%
ERM	166	36.8%	285	63.2%
QI	90	19.9%	362	80.1%
HRM	87	19.2%	367	80.8%
FA	59	33.4%	301	66.6%
PM	169	37.3%	284	62.7%
Contract	268	59.4%	183	40.6%

Question 9 asked respondents to indicate where they had received their competency training. Question 13 asked respondents to prioritize their competency learning needs. More information on this prioritized listing of learning needs will be presented in Section 6.3 of this chapter.

The above data shows that in nearly all instances, those who already had some competency training were more likely to identify a need for further training in that competency. The two exceptions were in evaluating management plans (EMP) and contract management (contract). In evaluating management plans those who already had training in this competency were almost as likely to consider further training as those with no previous training. In contract management a higher percentage of those with no previous training identified a need for training in this competency training compared to those who already had some training in this skill.

### 6.33: Competency Mean Rating and Learning Mean Rating

Competency	Mean Skill Rating	Mean Need Training	Overall Mean	Sig
EV	3.2	2.9	3.1	<0.05
STAT	3.1	2.7	3.1	<0.05
COMMS	3.6	3.1	3.5	<0.01
GOV	3.0	2.8	3.0	ns
LEAD	4.1	3.7	4.0	<0.01
CM	3.9	3.1	3.7	<0.01
CC	3.9	3.6	3.8	<0.01
EMP	3.1	2.8	3.1	<0.05
ERM	3.1	3.0	3.1	ns
QI	3.4	3.3	3.4	ns
HRM	3.7	3.3	3.7	<0.01
FA	3.3	2.7	3.1	<0.01
PM	3.3	3.1	3.2	<0.05
Contract	2.7	2.6	2.7	ns

*(ns= not significant)*

The data shows that the mean rating by respondents with regard to their competency abilities and needed training tends to follow a similar pattern. Competencies that were rated high are the same ones the respondents rate high for learning [ i.e. leadership skills (LEAD) and change and complexity (CC)]. People skills remain their top learning needs when these are the skills they already have training in. Similarly, contract management (Contract), financial analysis (FA), governance and policy management (GOV), evaluating management plans (EMP) evidence-based management (EV) are all rated low in learning need. These are the skills where learning is needed. In section 6.3 of this chapter another listing of learning priorities will be provided by survey respondents. .

### 6.34: Mean Rating and Prior Competency Training

Competency	Number with NT	Number with IW	Number with FC	Mean for NT	Mean for IW	Mean for FC	Overall Mean
EV	167	140	136	2.4	3.3	3.7	3.1
STAT	112	62	265	2.3	3.2	3.4	3.1
COMMS	68	246	134	3.3	3.3	4.1	3.5
GOV	170	127	144	2.3	3.2	3.6	3.0
LEAD	29	195	230	3.5	3.9	4.2	4.0
CM	59	247	144	3.0	3.7	4.1	3.7
CC	67	235	149	3.2	3.7	4.2	3.8
EMP	218	112	110	2.6	3.3	3.8	3.1
ERM	164	214	68	2.5	3.3	3.9	3.1
QI	88	269	92	2.7	3.5	3.9	3.4
HRM	86	208	157	3.1	3.7	4.0	3.7
FA	150	152	149	2.3	3.2	3.8	3.1
PM	167	183	99	2.6	3.4	3.9	3.2
Contract	259	130	52	2.2	3.2	3.6	2.7

(NT= no training, IW = in-service/workshop training, FC= some formal training)

The data shows a relationship between training and how respondents rate their competency skills. In all competencies those with some formal education/training (FC) rated their skills higher than either those with in-service/workshop training (IW) or no training (NT). Those with no training (NT) rated themselves lower in all skills compared to the overall mean. A consistent pattern remains, as all groups rated themselves high in people skills [i.e. leadership skills (LEAD), change and complexity (CC), conflict management (CM), and human resource management (HRM)], which is consistent with the training which is available in the health authorities.

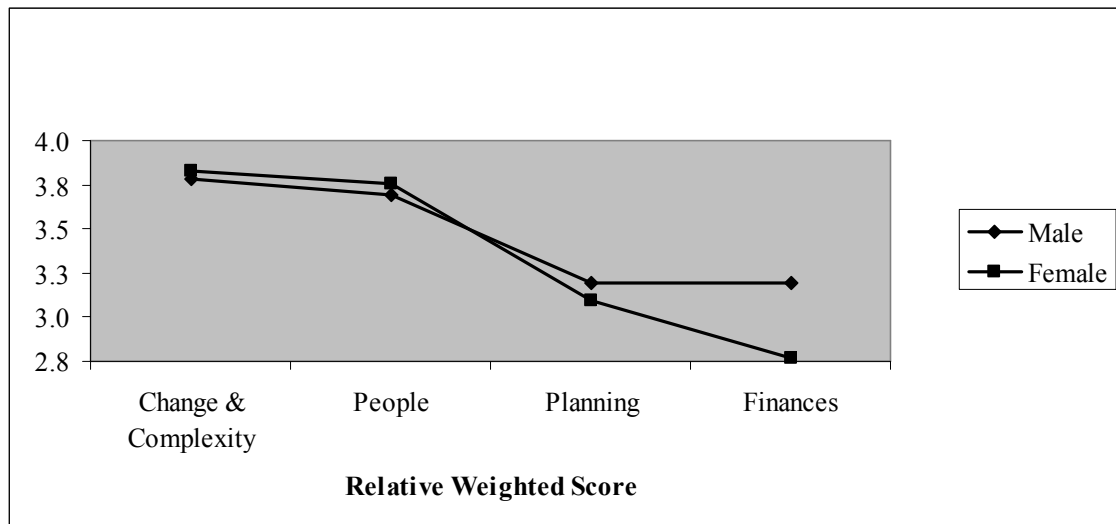
In Tables 6.35 to 6.37 the list of fourteen competencies has been reduced to four as follows:

- Change and complexity
- People – to include; human resource management, communications and information technology use, leadership skills and conflict management.
- Planning – to include; evidence-based management, evaluating management plans, use of statistics, project management, governance and policy development, environment and risk management and quality improvement.
- Finances- to include financial analysis and contract management.

**Table 6.35: Competency Rating by Gender**

Competency Rating	Male	Female
Change & Complexity	3.8	3.8
People	3.7	3.8
Planning	3.2	3.1
Finances	3.2	2.8

Figure 6.6 provides a graphical presentation of the data.



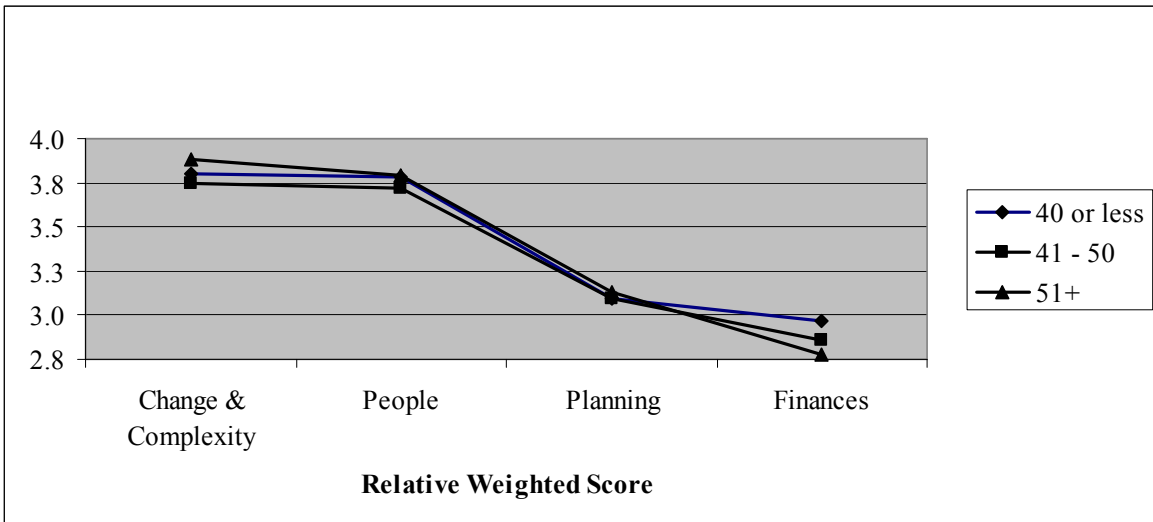
**Figure 6.6: Competency Rating by Gender**

The data shows that both males and females rate themselves high in change and complexity and people skills but diverge when it comes to planning and finances, with males rating themselves higher than females.

**Table 6.36: Competency Rating by Age**

Competency Rating	40 or less	41 - 50	51+
Change & Complexity	3.8	3.7	3.9
People	3.8	3.7	3.8
Planning	3.1	3.1	3.1
Finances	3.0	2.9	2.8

Figure 6.7 provides a graphical presentation of the data.



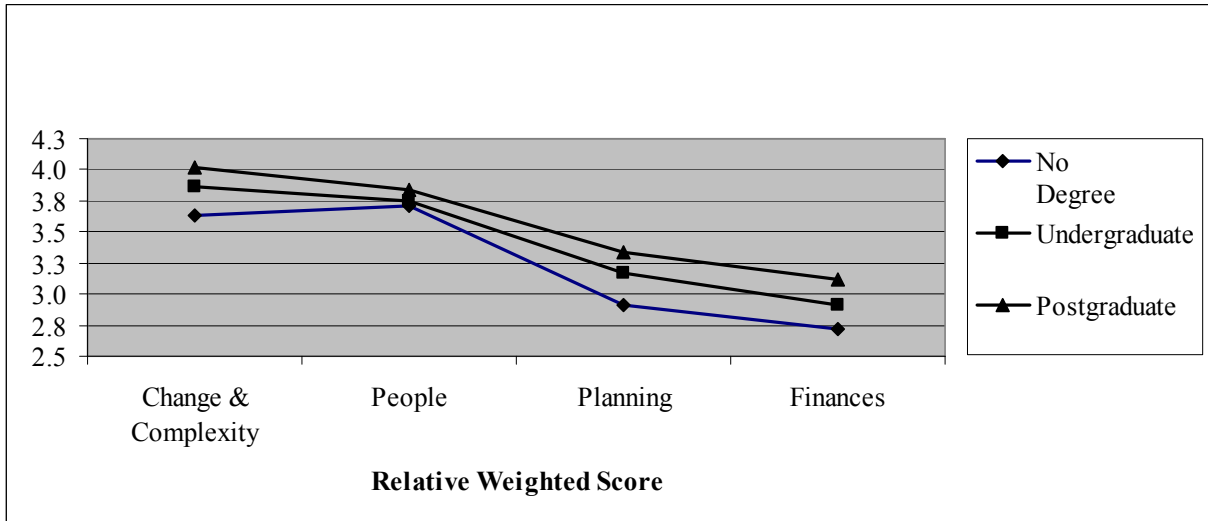
**Figure 6.7: Competency Rating by Age**

The data shows that all age groups rate themselves high in change and complexity and people skills and lower in planning and lower still in financial skills.

**Table 6.37: Competency Rating by Undergraduate/Postgraduate Education**

Competency Rating	No Degree	Undergraduate	Postgraduate
Change & Complexity	3.6	3.9	4.0
People	3.7	3.7	3.8
Planning	2.9	3.2	3.3
Finances	2.7	2.9	3.1

Figure 6.8 provides a graphical presentation of the data.



**Figure 6.8: Competency Rating by Undergraduate/Postgraduate Education**

The data shows that those with postgraduate education rate themselves higher than those with undergraduate education and no degree in all four categories. The pattern for all three groups shows a higher rating in change and complexity and people skills with a lower rating in planning and lower still in finances.

In summary, Tables 6.28 to 6.37 on management education found that with regard to the fourteen competencies, 59% of all training has been through in-service, workshops or seminar educational programs. The self-rating data shows that the ratings vary by gender, age and undergraduate/postgraduate education. The self-ratings also showed a consistency pattern with respondents rating themselves high in change and complexity and people skills and lower in other skills. Those with prior education were also more likely to see the need for more competency learning.



## 6.2.5 Educational delivery

Tables 6.38 to 6.74 deal with data relative to the delivery of education addressing such features as how health reform has changed the learning environment, more academic credit, how familiar respondents are to distance and e-learning, reasons why e-learning has not been chosen, and rating classroom, distance and e-learning. In this first segment, Tables 6.38 to 6.47 deal with change in the learning environment and the need for more academic credit.

## 6.2.6 Educational change due to health reform

**Table 6.38: Education Change Due to Health Reform**

		Cases	Col Response %
How educational needs have changed	No change has occurred	7	1.5%
	Competencies not clearly defined	184	40.6%
	Former skills are obsolescent	74	16.3%
	New skills are needed quickly	369	81.5%
	Stressful environment makes learning difficult	274	60.5%
	Managers more responsible for their own education	299	66.0%
	Life long learning has become necessary	387	85.4%
	Other	67	14.8%
Total	453	366.7%	

*(Note: Respondents in this question could select more than one variable in this question.)*

The data shows a shift in the thinking of health-care managers especially in their views towards lifelong learning (85.4%) and personal responsibility (66.0 %) for their learning in comparison to the past where they relied extensively on their health organization to provide such learning. 81.5% indicate that new skills are needed quickly and 60.5 % indicate their working environment is too stressful for learning.

For greater ease in data analysis the above list of variables has been reduced to four as follows:

- Skills outdated, to include; ‘former skills are obsolescent’ and ‘new skills needed quickly’.
- Difficult working environment, to include; ‘stressful environment’ and ‘competencies not clearly defined’.
- Increased learning responsibilities, to include; ‘managers are more responsible for their own learning’ and ‘lifelong learning has become necessary’.
- No change

The following tables shows the restructured variables.

		Cases	Col Response %
How education needs have changed (grouped)	Skills outdated	371	82.6%
	Difficult working environment	330	73.5%
	Increased learning responsibilities	417	92.9%
	No change	7	1.6%
Total		449	250.6%

The data shows, in priority, the three key issues affecting the learning environment of health-care managers following health reform are increased learning responsibilities (92.9%), need for new skills (82.6%) and a working environment which makes learning difficult (73.5%) . These points will be examined further in chapter seven.

**Table 6.39: Educational Change Due to Health Reform by Gender**

Cross-tabulation by question 24 (educational need change due to health reform) and question 5 (gender).

			Gender		Total
			Male	Female	
How education needs have changed (grouped)	Skills outdated	Cases	97	274	371
		Row %	26.1%	73.9%	100.0%
		Col %	78.9%	84.0%	82.6%
	Difficult working environment	Cases	95	235	330
		Row %	28.8%	71.2%	100.0%
		Col %	77.2%	72.1%	73.5%
	Increased learning responsibilities	Cases	114	303	417
		Row %	27.3%	72.7%	100.0%
		Col %	92.7%	92.9%	92.9%
	No change	Cases	1	6	7
		Row %	14.3%	85.7%	100.0%
		Col %	.8%	1.8%	1.6%
Total	Cases	123	326	449	
	Row %	68.4%	182.2%	250.6%	
	Col %	249.6%	250.9%	250.6%	

In all three categories (skills outdated, difficult working environment and increased learning responsibilities) females outnumber males. 73.9% of females indicate their skills are outdated.

**Table 6.40: Educational Change Due to Health Reform by Age**

Cross-tabulation by question 24 (educational need change due to health reform) and question 4 (age).

			Age group			Total
			40 or less	41-50	51+	
How education needs have changed (grouped)	Skills outdated	Cases	56	153	162	371
		Row %	15.1%	41.2%	43.7%	100.0%
		Col %	81.2%	84.5%	81.4%	82.6%
	Difficult working environment	Cases	50	136	144	330
		Row %	15.2%	41.2%	43.6%	100.0%
		Col %	72.5%	75.1%	72.4%	73.5%
	Increased learning responsibilities	Cases	62	167	188	417
		Row %	14.9%	40.0%	45.1%	100.0%
		Col %	89.9%	92.3%	94.5%	92.9%
	No change	Cases	1	2	4	7
		Row %	14.3%	28.6%	57.1%	100.0%
		Col %	1.4%	1.1%	2.0%	1.6%
Total	Cases	69	181	199	449	
	Row %	37.6%	102.0%	110.9%	250.6%	
	Col %	244.9%	253.0%	250.3%	250.6%	

Those over 41 years of age indicate their skills are outdated.(84.9%), they have a difficult working environment for learning (84.8%) and they have increased learning responsibilities (85.1%).

**Table 6.41: Educational Change Due to Health Reform by Urban/Non-urban Location**

Cross-tabulation by question 24 (educational need change due to health reform) and question 2 (work location).

			Postcode grouped		Total
			Urban	Rural	
How education needs have changed (grouped)	Skills outdated	Cases	341	19	360
		Row %	94.7%	5.3%	100.0%
		Col %	83.2%	86.4%	83.3%
	Difficult working environment	Cases	302	17	319
		Row %	94.7%	5.3%	100.0%
		Col %	73.7%	77.3%	73.8%
	Increased learning responsibilities	Cases	380	21	401
		Row %	94.8%	5.2%	100.0%
		Col %	92.7%	95.5%	92.8%
	No change	Cases	7	0	7
		Row %	100.0%	.0%	100.0%
		Col %	1.7%	.0%	1.6%
Total	Cases	410	22	432	
	Row %	238.4%	13.2%	251.6%	
	Col %	251.2%	259.1%	251.6%	

The majority of respondents working in urban locations in the province have problems in all three categories. However, with 95% of respondents coming from urban areas this data may not provide enough of a comparison with non-urban respondents.

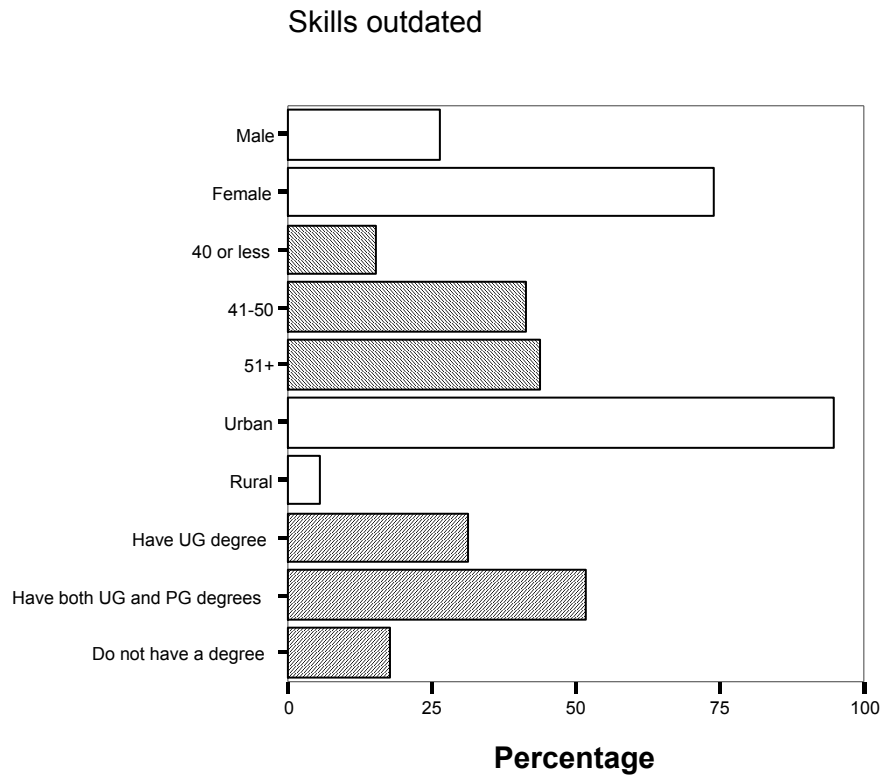
**Table 6.42: Educational Change Due to Health Reform by Undergraduate/Postgraduate Education**

	No Degree	% No Degree	Under-graduate	% Under-graduate	Post-Graduate	% Post-Grad
Skills Outdated	73	82%	283	80%	190	84%
Difficult Working Conditions	63	71%	255	72%	170	75%
Increased Learning Responsibilities	85	96%	317	90%	214	95%
No Change	1	1%	6	2%	4	2%

The variation in all three categories is only slightly different whether the respondents has postgraduate, undergraduate or no degree. Postgraduates lead the others in recognizing health reform has resulted in their skills being outdated and their working environment has presented

new challenges. Respondents with no degree led the others in recognizing health reform has increased their learning responsibilities.

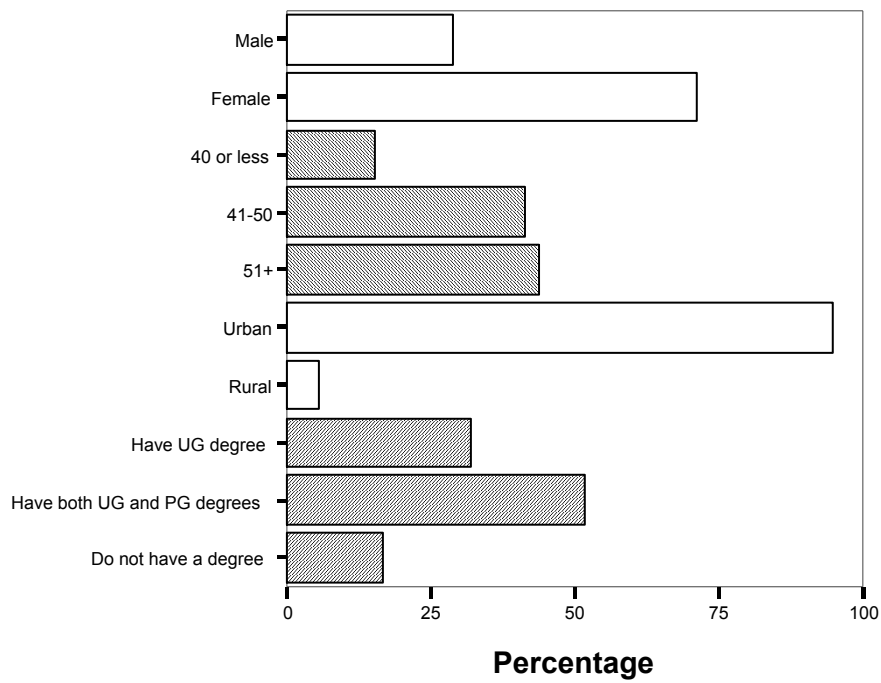
Figure 6.9 to Figure 6.12 has consolidated the data in the above tables in a graphical format addressing the four issues of skills outdated, difficult working environment, increased learning responsibilities and no change.



**Figure 6.9: Skills outdated due to Health Reform**

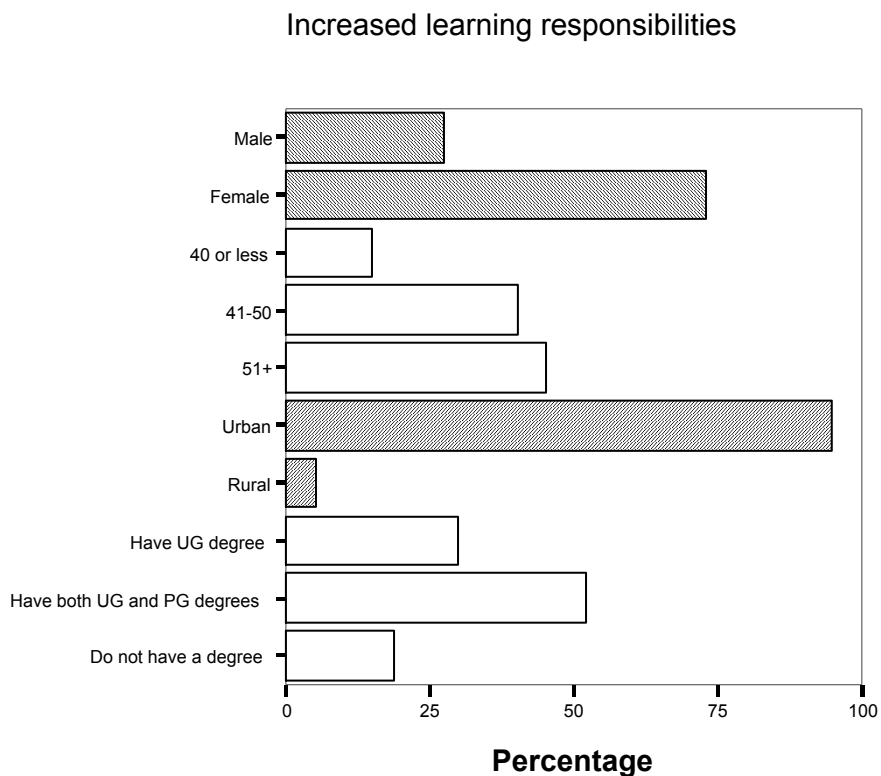
The graph shows that those having the greatest difficulty with outdated skills due to health reform are females, over 41 years of age, working in an urban location, with both undergraduate and postgraduate education.

### Difficult working environment



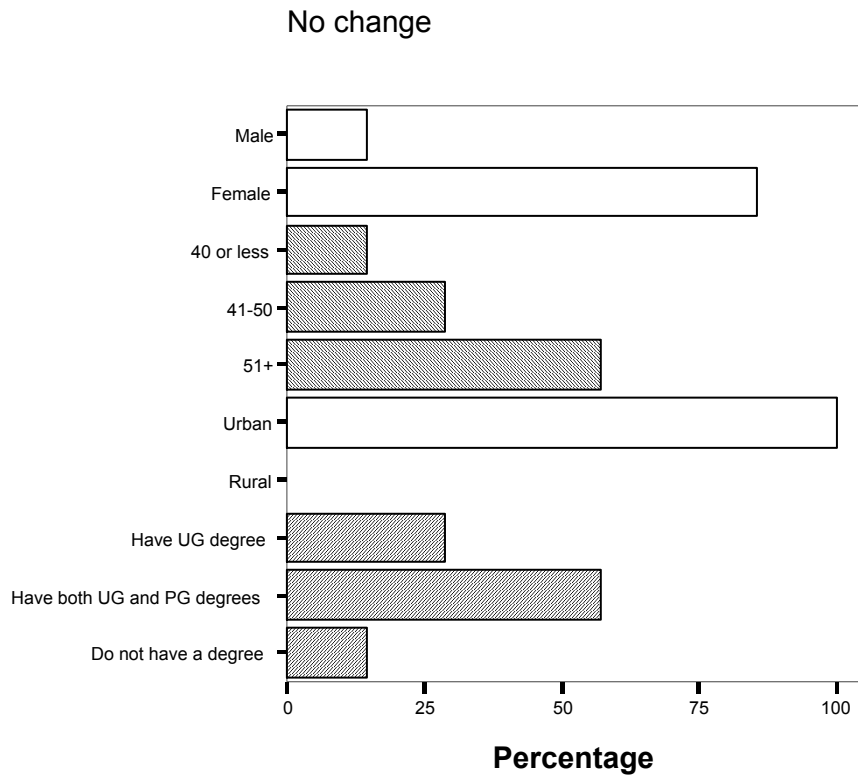
**Figure 6.10: Difficult Working Environment Due to Health reform**

The graph shows that those who feel their difficult working environment due to health which makes learning difficult are females, over 41 years of age, working in an urban location, with both undergraduate and postgraduate education.



**Figure 6.11: Increased Learning Responsibilities Due to Health Reform**

The graph shows that those who feel they have increased learning responsibilities due to health reform are females, over 41 years of age, working in an urban location, with both undergraduate and postgraduate education.



**Figure 6.12: No Change Due to Health reform**

Of those who selected 'no change' due to health reform, the majority were female, over 51 years of age, working in an urban location, with both undergraduate and postgraduate education.

In summary, Tables 6.38 to 6.42 on education change due to health reform found that the majority of respondents recognize their need for lifelong learning (85.5%), increased learning responsibility (92.9%), the need for new skills (82.6%) and a difficult working environment is making learning difficult (73.5%). Those mainly affected by these issues are females, over 41 years of age, working in an urban location with both undergraduate and postgraduate education.

Tables 6.43 to 6.47 presents data with regard to how respondents view the need for more academic credit.



**Table 6.43: Academic Credit for Professional Experience**

**Q22 Should receive academic credit for years of professional experience**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	277	60.5	61.4	61.4
	No	119	26.0	26.4	87.8
	Don't know	55	12.0	12.2	100.0
	Total	451	98.5	100.0	
Missing	System	7	1.5		
Total		458	100.0		

The majority (60.5 %) of survey respondents would like to receive academic credit for their professional experience.

**Table 6.44: Academic Credit for Other Learning**

**Q23 Certain education programs should count towards a higher degree**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	350	76.4	77.6	77.6
	No	67	14.6	14.9	92.5
	Don't know	34	7.4	7.5	100.0
	Total	451	98.5	100.0	
Missing	System	7	1.5		
Total		458	100.0		

The majority (76.4 %) of respondents would like to receive academic credit for other education such as in-service, workshops, seminars and non-formal learning.

**6.45: Academic Credit for Experience and Other Learning by Gender**

	Gender			
	Male		Female	
Academic credit wanted for experience	79	(28.5)	198	(71.5)
Academic credit not wanted for experience	32	(26.9)	87	(73.1)
Academic credit wanted for other learning	92	(26.3)	258	(73.7)
Academic credit not wanted for other learning	24	(35.8)	43	(64.2)

More females (71.5%) than males (28.5%) want academic credit for experience and more females (73.7%) than males (26.3%) want academic credit for other learning.

**6.46: Academic Credit for Experience and Other Learning by Age**

	Age group					
	40 or less		41-50		51+	
Academic credit wanted for experience	29	(10.5)	111	(40.1)	137	(49.5)
Academic credit not wanted for experience	26	(21.8)	45	(37.8)	48	(40.3)
Academic credit wanted for other learning	43	(12.3)	147	(42.0)	160	(45.7)
Academic credit not wanted for other learning	18	(26.9)	22	(32.8)	27	(40.3)

Academic credit for experience is highest (49.5%) in those over 51 years of age followed by the group 41-50 years of age. The same pattern holds for academic credit for other learning with the highest (45.7%) in the over 51 age group followed by the group 41-50 years of age.

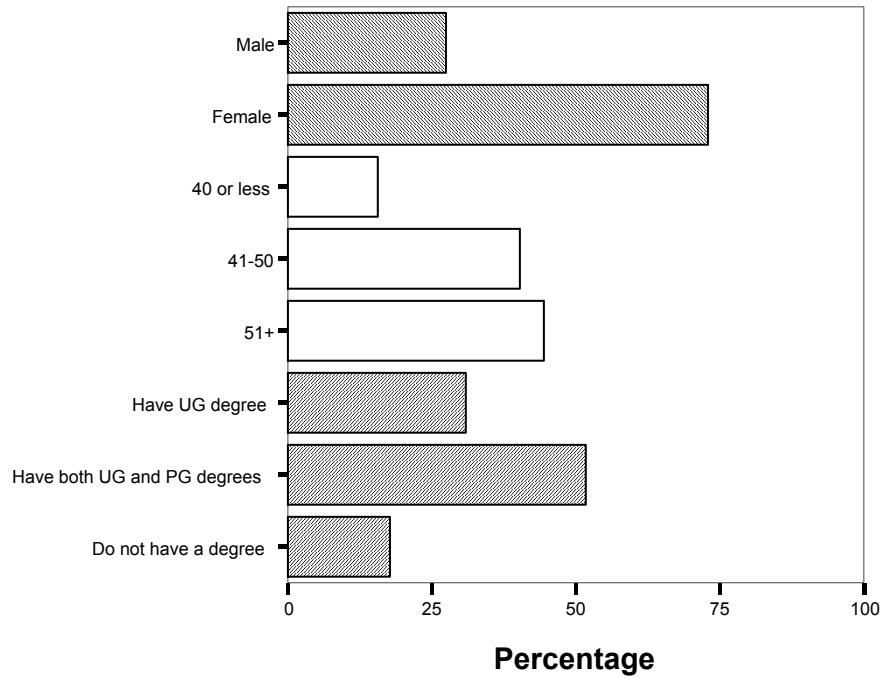
**Table 6.46: Academic Credit for Experience and Other Learning by Undergraduate/ Postgraduate Education**

	Qualifications					
	Have UG degree		Have both UG and PG degrees		Do not have a degree	
Academic credit wanted for experience	92	(33.2)	118	(42.6)	67	(24.2)
Academic credit not wanted for experience	27	(22.7)	87	(73.1)	5	(4.2)
Academic credit wanted for other learning	114	(32.6)	162	(46.3)	74	(21.1)
Academic credit not wanted for other learning	13	(19.4)	52	(77.6)	2	(3.0)

Academic credit for experience and other learning is highest (42.6% and 46.3% respectively) for those with both undergraduate and postgraduate education .

Figures 6.13 and 6.14 provide a graphical presentation of the above data.

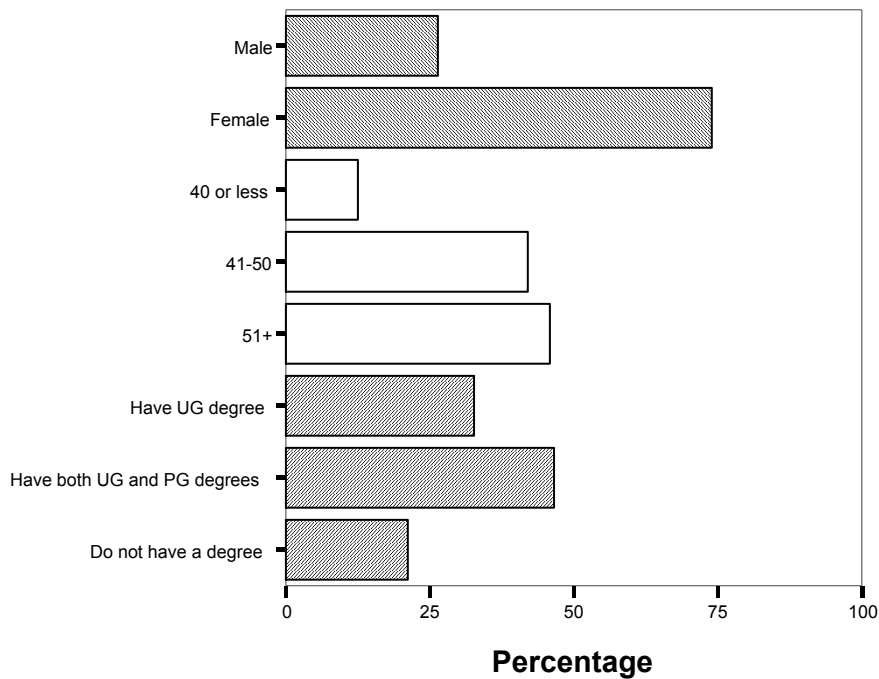
### Academic credit wanted for experience



**Figure 6.13: Academic Credit for Experience**

The graph shows that those wanting more academic credit for experience are females, over 41 years of age with both undergraduate and postgraduate education.

### Academic credit wanted for other learning



**Figure 6.14: Academic Credit for Other Learning**

The graph shows that those wanting more academic credit for other learning is more evident are females, over 41 years of age with both undergraduate and postgraduate education.

In summary, Tables 6.42 to 6.47 on the need for more academic credit found that the majority (60.5%) of respondents want more academic credit for their professional experience and (76.4%) more credit for other learning. Those wanting this increased academic credit are females, over 41 years of age, with both undergraduate and postgraduate education.

Tables 6.48 to 6.61 presents data with regard to respondent experience with distance and e-learning and how respondents rate themselves with regard to their computer and Internet skills needed for e-learning.

## 6.2.7 Respondent familiarity with distance and e-learning

**Table 6.48: Respondents' Distance Learning Experience**

**Q14 Ever taken a distance learning course**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	305	66.6	73.0	73.0
	No	106	23.1	25.4	98.3
	Don't know	7	1.5	1.7	100.0
	Total	418	91.3	100.0	
Missing	System	40	8.7		
Total		458	100.0		

The majority (66.6 %) of survey respondents have had some experience with distance learning.

**Table 6.49: Respondents' Interest in Further Distance Learning**

**Q15 Interested in taking another distance learning course**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	254	55.5	77.4	77.4
	No	40	8.7	12.2	89.6
	Don't know	34	7.4	10.4	100.0
	Total	328	71.6	100.0	
Missing	System	130	28.4		
Total		458	100.0		

The majority (77.4 %) of respondents indicated they would be interested in further distance learning.

### 6.50: Distance Learning Experience/Interest by Gender

		Q5 Gender			
		Male		Female	
Q14 Ever taken a distance learning course	Yes	76	(24.9)	229	(75.1)
	No	34	(32.1)	72	(67.9)
Q15 Interested in taking another distance learning course	Yes	63	(24.8)	191	(75.2)
	No	11	(27.5)	29	(72.5)

The majority (75.1%) of females have taken a distance learning course and the majority (75.2%) of females would be interested in taking another distance learning course.

### 6.51: Distance Learning Experience/Interest by Age

		q4gr Age group					
		40 or less		41-50		51+	
Q14 Ever taken a distance learning course	Yes	52	(17.0)	119	(39.0)	134	(43.9)
	No	15	(14.2)	47	(44.3)	44	(41.5)
Q15 Interested in taking another distance learning course	Yes	42	(16.5)	106	(41.7)	106	(41.7)
	No	7	(17.5)	13	(32.5)	20	(50.0)

The highest percentage (43.9%) of those with distance learning experience are in the 51+ age group. Those interested in pursuing another distance learning course are over 41 years of age.

### 6.52: Distance Learning Experience/Interest by Urban/Non-urban Location

		q2gr Postcode grouped			
		Urban		Rural	
Q14 Ever taken a distance learning course	Yes	274	(93.5)	19	(6.5)
	No	101	(99.0)	1	(1.0)
Q15 Interested in taking another distance learning course	Yes	228	(93.4)	16	(6.6)
	No	36	(94.7)	2	(5.3)

The majority of those working in urban locations have taken a distance learning course (93.5%) and are interested in taking another distance learning course (93.4%).

### 6.53: Distance Learning Experience/Interest by Undergraduate/Postgraduate Education

		havedegree Qualifications					
		Have UG degree		Have both UG and PG degrees		Do not have a degree	
Q14 Ever taken a distance learning course	Yes	103	(33.8)	154	(50.5)	48	(15.7)
	No	23	(21.7)	61	(57.5)	22	(20.8)
Q15 Interested in taking another distance learning course	Yes	82	(32.3)	128	(50.4)	44	(17.3)
	No	14	(35.0)	23	(57.5)	3	(7.5)

The majority (50.5%) of those with both undergraduate and postgraduate education have taken a distance learning course, and the majority (50.4%) of the same group would take another distance learning course.

**Table 6.54: Respondents' Experience with E-Learning**

**Q16 Ever participated in internet-based education course**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	197	43.0	47.6	47.6
	No	208	45.4	50.2	97.8
	Don't know	9	2.0	2.2	100.0
	Total	414	90.4	100.0	
Missing	System	44	9.6		
Total		458	100.0		

43% of respondents have had experience with e-learning.

**Table 6.55: E-Learning Experience by Gender**

Cross-tabulation by question 16 (experience with internet-based learning) and question 5 (gender).

**Crosstab**

			Q5 Gender		Total
			Male	Female	
Q16 Ever participated in internet-based education course	Yes	Count	46	151	197
		Expected Count	51.6	145.4	197.0
		% within Q16 Ever participated in internet-based education course	23.4%	76.6%	100.0%
		% within Q5 Gender	43.4%	50.5%	48.6%
	No	Count	60	148	208
		Expected Count	54.4	153.6	208.0
		% within Q16 Ever participated in internet-based education course	28.8%	71.2%	100.0%
		% within Q5 Gender	56.6%	49.5%	51.4%
Total	Count	106	299	405	
	Expected Count	106.0	299.0	405.0	
	% within Q16 Ever participated in internet-based education course	26.2%	73.8%	100.0%	
	% within Q5 Gender	100.0%	100.0%	100.0%	

The majority (76.6%) of those with e-learning experience are females. The Chi Square Test [ $\chi^2 (1) = 1.58, p>0.05$ ] shows that there is no association between the two variables. (.209)

**Table 6.56: E-learning Experience by Age**

Cross-tabulation by question 16 (experience with internet-based learning) and question 4 (age).

**Crosstab**

			q4gr. Age group			Total
			40 or less	41-50	51+	
Q16 Ever participated in internet-based education course	Yes	Count	41	77	79	197
		Expected Count	32.6	79.3	85.1	197.0
		% within Q16 Ever participated in internet-based education course	20.8%	39.1%	40.1%	100.0%
		% within q4gr. Age group	61.2%	47.2%	45.1%	48.6%
	No	Count	26	86	96	208
		Expected Count	34.4	83.7	89.9	208.0
		% within Q16 Ever participated in internet-based education course	12.5%	41.3%	46.2%	100.0%
		% within q4gr. Age group	38.8%	52.8%	54.9%	51.4%
Total	Count	67	163	175	405	
	Expected Count	67.0	163.0	175.0	405.0	
	% within Q16 Ever participated in internet-based education course	16.5%	40.2%	43.2%	100.0%	
	% within q4gr. Age group	100.0%	100.0%	100.0%	100.0%	

79.1% of respondents 41 years and older have had experience with e-learning. The Chi Square Test [ $\chi^2 (2) = 5.21, p>0.05$ ] shows that there is no association between the two variables.



**Table 6.57: E-learning Experience by Urban/Non-urban Location**

Cross-tabulation by question 16 (experience with internet-based learning) and question 2 (work location).

**Crosstab**

				q2gr Postcode grouped		Total
				Urban	Rural	
Q16 Ever participated in internet-based education course	Yes	Count	176	12	188	
		Expected Count	177.9	10.1	188.0	
		% within Q16 Ever participated in internet-based education course	93.6%	6.4%	100.0%	
		% within q2gr Postcode grouped	47.8%	57.1%	48.3%	
	No	Count	192	9	201	
		Expected Count	190.1	10.9	201.0	
		% within Q16 Ever participated in internet-based education course	95.5%	4.5%	100.0%	
		% within q2gr Postcode grouped	52.2%	42.9%	51.7%	
Total	Count	368	21	389		
	Expected Count	368.0	21.0	389.0		
	% within Q16 Ever participated in internet-based education course	94.6%	5.4%	100.0%		
	% within q2gr Postcode grouped	100.0%	100.0%	100.0%		

93.6% of respondents working in an urban location have had experience with e-learning. The Chi Square Test [ $\chi^2 (1) = 0.69, p > 0.05$ ] shows that there is no association between the two variables.

**Table 6.58: Have Computer/Internet Skills for E-learning**

<i>Response</i>	<i>Count</i>	<i>Percent</i>
Yes	391	85%
No	20	4%
Don't know	30	7%
No Response	17	4%
Total	458	100%

The majority (85%) of respondents indicated they have the skills for e-learning.

**Table 6.59: Computer/Internet Skills by Undergraduate/Postgraduate Education**

**Crosstab**

		havedegree Qualifications			Total	
		Have UG degree	Have both UG and PG degrees	Do not have a degree		
Q20 Have the computer and internet skills to study online	Yes	Count	118	205	68	391
		Expected Count	118.9	205.5	66.6	391.0
		% within Q20 Have the computer and internet skills to study online	30.2%	52.4%	17.4%	100.0%
		% within havedegree Qualifications	94.4%	94.9%	97.1%	95.1%
	No	Count	7	11	2	20
	Expected Count	6.1	10.5	3.4	20.0	
	% within Q20 Have the computer and internet skills to study online	35.0%	55.0%	10.0%	100.0%	
	% within havedegree Qualifications	5.6%	5.1%	2.9%	4.9%	
Total	Count	125	216	70	411	
	Expected Count	125.0	216.0	70.0	411.0	
	% within Q20 Have the computer and internet skills to study online	30.4%	52.6%	17.0%	100.0%	
	% within havedegree Qualifications	100.0%	100.0%	100.0%	100.0%	

The majority (52.4%) of those with undergraduate/postgraduate education indicate they have the computer/Internet skills for e-learning. The Chi Square Test [ $\chi^2 (2) = 0.78, p > 0.05$ ] shows that there is no association between the two variables.

## 6.60: Computer/Internet Skills by Clinical/Business Undergraduate Education

Crosstab

			q6gr2 Undergraduate education				Total
			Nursing	Healthcare related	Business / Mgmt	Other UG	
Q20 Have the computer and internet skills to study online	Yes	Count	115	81	37	90	323
		Expected Count	116.5	78.6	36.0	91.9	323.0
		% within Q20 Have the computer and internet skills to study online	35.6%	25.1%	11.5%	27.9%	100.0%
		% within q6gr2 Undergraduate education	93.5%	97.6%	97.4%	92.8%	94.7%
	No	Count	8	2	1	7	18
		Expected Count	6.5	4.4	2.0	5.1	18.0
		% within Q20 Have the computer and internet skills to study online	44.4%	11.1%	5.6%	38.9%	100.0%
		% within q6gr2 Undergraduate education	6.5%	2.4%	2.6%	7.2%	5.3%
Total	Count	123	83	38	97	341	
	Expected Count	123.0	83.0	38.0	97.0	341.0	
	% within Q20 Have the computer and internet skills to study online	36.1%	24.3%	11.1%	28.4%	100.0%	
	% within q6gr2 Undergraduate education	100.0%	100.0%	100.0%	100.0%	100.0%	

The largest percentage (35.6%) of those with nursing undergraduate education indicate they have the computer/Internet skills for e-learning. This is followed by those with other undergraduate education. The Chi Square Test [ $\chi^2(3) = 2.99, p > 0.05$ ] shows that there is no association between the two variables.

### 6.61: Computer/Internet Skills by Clinical/Business Postgraduate Education

Crosstab

			q7gr3 Postgraduate education				Total
			Nursing	Healthcare related	Business / Mgmt	Other PG	
Q20 Have the computer and internet skills to study online	Yes	Count	34	24	97	50	205
		Expected Count	35.1	26.6	93.0	50.3	205.0
		% within Q20 Have the computer and internet skills to study online	16.6%	11.7%	47.3%	24.4%	100.0%
		% within q7gr3 Postgraduate education	91.9%	85.7%	99.0%	94.3%	94.9%
	No	Count	3	4	1	3	11
		Expected Count	1.9	1.4	5.0	2.7	11.0
		% within Q20 Have the computer and internet skills to study online	27.3%	36.4%	9.1%	27.3%	100.0%
		% within q7gr3 Postgraduate education	8.1%	14.3%	1.0%	5.7%	5.1%
Total	Count	37	28	98	53	216	
	Expected Count	37.0	28.0	98.0	53.0	216.0	
	% within Q20 Have the computer and internet skills to study online	17.1%	13.0%	45.4%	24.5%	100.0%	
	% within q7gr3 Postgraduate education	100.0%	100.0%	100.0%	100.0%	100.0%	

The highest percentage (47.3%) of those with postgraduate business/management education indicate they have the computer/Internet skills for e-learning. The Chi Square Test [ $\chi^2(3) = 8.99$ ,  $p < 0.05$ ] shows that there is a statistical significant association between the two variables.

In summary, Tables 6.48 to 6.61 on the familiarity with distance and e-learning found that the majority (66.6%) of respondents had experience with distance learning and 77.4% would consider another distance learning course. Distance learning experience was found with more females, over 41 years of age, working in an urban location with both undergraduate and postgraduate education. 43% of respondents have e-learning experience. Those with e-learning experience followed a similar pattern to those with distance learning experience being female, over 41 years of age, working in an urban location. 85% of respondents indicate they have the computer/internet skills for e-learning, particularly those with undergraduate and postgraduate education.

Tables 6.62 to 6.68 provide data on why respondents did not choose e-learning.

**Table 6.62: Reasons E-learning Not Chosen**

<i>Reasons:</i>	<b>Count</b>	<b>%</b>
Never thought of it	12	10%
Do not have a home computer	10	8%
Cannot get enough time on the home computer for	20	16%
Do not like to use the internet to study	15	12%
Prefer face-to-face learning situations	54	43%
Don't like studying alone	10	8%
Not adept at using the computer	9	7%
Not adept at using the internet	11	9%
Unaware of what internet courses are available	46	37%
Other	36	29%

Of the 223 responses to this question, the majority (43%) indicated that they preferred face-to-face (i.e. classroom) learning. This was not a surprise in light of the dominant preference for a classroom delivery format by the health authorities. Technology issues were identified by 40% who had no computer, were not adept at using a computer or the Internet and/or could not get time on a home computer for study. 37% indicated they were unaware of e-learning programs. Comments in the 'other' category of this question showed the two largest groups either did not have time for study after a busy workday due to family responsibilities, or e-learning courses were either not available or not appealing.

Further analysis of this data was done with a smaller number of variables. A smaller grouping of three was created as follows:

- Prefer face-to-face learning
- Technological Problems, to include; do not have a home computer, cannot get enough time of the home computer for studies, do not like to use the Internet for studies, not adept at using a computer and not adept at using the Internet.
- Lack of Awareness, to include; unaware of courses and never thought of it.

### 6.63: E-learning Not Chosen by Gender

			Gender		Total
			Male	Female	
Why not considered e-learning	Prefer face to face learning	Cases	33	81	114
		Row %	28.9%	71.1%	100.0%
		Col %	52.4%	55.9%	54.8%
	Technological problems	Cases	20	66	86
		Row %	23.3%	76.7%	100.0%
		Col %	31.7%	45.5%	41.3%
	Lack awareness	Cases	35	77	112
		Row %	31.3%	68.8%	100.0%
		Col %	55.6%	53.1%	53.8%
Total	Cases	63	145	208	
	Row %	42.3%	107.7%	150.0%	
	Col %	139.7%	154.5%	150.0%	

The highest percentage of those not choosing e-learning were females, 55.9% prefer face-to-face learning and 45.5% because of technological problems. The majority (68.8%) of those lacking awareness of e-learning resources were females.

### 6.64: E-learning Not Chosen by Age

			Age group			Total
			40 or less	41-50	51+	
Why not considered e-learning	Prefer face to face learning	Cases	13	43	58	114
		Row %	11.4%	37.7%	50.9%	100.0%
		Col %	59.1%	49.4%	58.6%	54.8%
	Technological problems	Cases	10	43	33	86
		Row %	11.6%	50.0%	38.4%	100.0%
		Col %	45.5%	49.4%	33.3%	41.3%
	Lack awareness	Cases	12	46	54	112
		Row %	10.7%	41.1%	48.2%	100.0%
		Col %	54.5%	52.9%	54.5%	53.8%
Total	Cases	22	87	99	208	
	Row %	16.8%	63.5%	69.7%	150.0%	
	Col %	159.1%	151.7%	146.5%	150.0%	

The majority (58.6%) not choosing e-learning because they preferred face-to-face learning were 51+ years of age. The largest percentage (49.4%) not choosing e-learning because of technical

problems were 41-50 years of age. The majority (54.5%) not choosing e-learning because of a lack of awareness of resources were 51+ years of age.

#### 6.65: E-learning Not Chosen by Urban/Non-urban Location

			Postcode grouped		Total
			Urban	Rural	
Why not considered e-learning	Prefer face to face learning	Cases	108	2	110
		Row %	98.2%	1.8%	100.0%
		Col %	55.7%	25.0%	54.5%
	Technological problems	Cases	83	1	84
		Row %	98.8%	1.2%	100.0%
		Col %	42.8%	12.5%	41.6%
	Lack awareness	Cases	103	6	109
		Row %	94.5%	5.5%	100.0%
		Col %	53.1%	75.0%	54.0%
Total	Cases	194	8	202	
	Row %	145.5%	4.5%	150.0%	
	Col %	151.5%	112.5%	150.0%	

The majority not choosing e-learning were from urban locations for all three variables; preferring face-to-face learning (55.7%), technological problems (42.8%) and a lack of awareness of resources (53.1%).

### 6.66: E-learning Not Chosen by Undergraduate/Postgraduate Education

			Qualifications			Total
			Have UG degree	Have both UG and PG degrees	Do not have a degree	
Why not considered e-learning	Prefer face to face learning	Cases	31	61	22	114
		Row %	27.2%	53.5%	19.3%	100.0%
		Col %	47.7%	64.9%	44.9%	54.8%
	Technological problems	Cases	30	35	21	86
		Row %	34.9%	40.7%	24.4%	100.0%
		Col %	46.2%	37.2%	42.9%	41.3%
	Lack awareness	Cases	36	47	29	112
		Row %	32.1%	42.0%	25.9%	100.0%
		Col %	55.4%	50.0%	59.2%	53.8%
Total	Cases	65	94	49	208	
	Row %	46.6%	68.8%	34.6%	150.0%	
	Col %	149.2%	152.1%	146.9%	150.0%	

The majority (64.9%) of those with both undergraduate and postgraduate education did not choose e-learning because they prefer face-to-face learning. The highest percentage (46.2%) of those with just undergraduate education did not choose e-learning because of technological problems. The majority (59.2%) of those with no degree did not choose e-learning because of a lack of awareness of e-learning resources.



### 6.67: E-learning Not Chosen by Clinical/Business Undergraduate Education

			Undergraduate education				Total
			Nursing	Healthcare related	Business / Mgmt	Other UG	
Why not considered e-learning	Prefer face to face learning	Cases	31	22	10	29	92
		Row %	33.7%	23.9%	10.9%	31.5%	100.0%
		Col %	60.8%	51.2%	62.5%	59.2%	57.9%
	Technological problems	Cases	19	18	8	20	65
		Row %	29.2%	27.7%	12.3%	30.8%	100.0%
		Col %	37.3%	41.9%	50.0%	40.8%	40.9%
Lack awareness	Cases	25	26	7	25	83	
	Row %	30.1%	31.3%	8.4%	30.1%	100.0%	
	Col %	49.0%	60.5%	43.8%	51.0%	52.2%	
Total	Cases	51	43	16	49	159	
	Row %	47.2%	41.5%	15.7%	46.5%	150.9%	
	Col %	147.1%	153.5%	156.3%	151.0%	150.9%	

The majority of those with business/management undergraduate education did not choose e-learning because they prefer face-to-face learning (62.5%), and for technological problems (50.0%) . The majority (60.5%) of those with healthcare related undergraduate education did not choose e-learning because of a lack of awareness of resources.

### 6.68: E-learning Not Chosen by Clinical/Business Postgraduate Education

			Postgraduate education				Total
			Nursing	Healthcare related	Business / Mgmt	Other PG	
Why not considered e-learning	Prefer face to face learning	Cases	16	11	23	11	61
		Row %	26.2%	18.0%	37.7%	18.0%	100.0%
		Col %	69.6%	55.0%	76.7%	52.4%	64.9%
	Technological problems	Cases	10	10	7	8	35
		Row %	28.6%	28.6%	20.0%	22.9%	100.0%
		Col %	43.5%	50.0%	23.3%	38.1%	37.2%
Lack awareness	Cases	11	11	12	13	47	
	Row %	23.4%	23.4%	25.5%	27.7%	100.0%	
	Col %	47.8%	55.0%	40.0%	61.9%	50.0%	
Total	Cases	23	20	30	21	94	
	Row %	39.4%	34.0%	44.7%	34.0%	152.1%	
	Col %	160.9%	160.0%	140.0%	152.4%	152.1%	

The majority (76.7%) of those with business/management postgraduate education did not choose e-learning because they prefer face-to-face learning. The majority (50.0%) of those with healthcare related postgraduate education did not choose e-learning because of technological

problems. The majority (61.9%) with other postgraduate education did not choose e-learning because of a lack of awareness of resources.

In summary, Tables 6.62 to 6.68 on the reasons why e-learning was not chosen found that 43% of respondents prefer face-to-face learning; mainly female, 51+ years of age, working in an urban location and with undergraduate and postgraduate education. 40% of respondents indicated they have technological problems; mainly female, 41 to 50 years of age, working in an urban location with undergraduate education. 37% of respondents indicated they were unaware of e-learning resources; mainly females, 51+ years of age, working in an urban location with no degree.

Tables 6.69 to 6.73 provides data in the comparison of the three educational delivery methods; classroom learning, paper-based distance learning and e-learning.

### **6.2.8 Comparison of classroom, distance and e-learning**

Survey respondents were asked to compare classroom learning, paper-based distance learning and e-learning by rating thirteen variables on a scale of 1 to 5, where 1=poor, 2= average, 3=good, 4=very good, and 5= excellent. The thirteen variables are:

- Course choices tailored to the learner
- Course duration tailored to the learner
- Course accessible when needed
- Registration is flexible
- Course guidelines are clearly stated
- Opportunities for evaluation of progress
- Pace of course is tailored to the learner
- Technology aspects easy to learn
- Group work for learning
- Assignments are clear
- Reading/other resources easy to access
- Good discussion/interaction with other students
- Instructor access is flexible and timely

### 6.69: Rating of Classroom-based Learning

Classroom	Poor	2	3	4	Excellent	Total		
						Missing	Total N	Mean
Course choices tailored to learner	31	57	144	126	73	27	458	3.35
Course duration tailored to learner	98	116	123	55	31	35	458	2.54
Course accessible when needed	137	163	79	21	21	37	458	2.11
Registration is flexible	104	119	133	38	27	37	458	2.44
Course guidelines clearly stated	4	18	102	174	127	33	458	3.95
Opportunities for evaluation of progress	2	24	101	177	120	34	458	3.92
Pace of course tailored to learner	74	136	150	43	20	35	458	2.52
Technology aspects easy to learn	8	26	97	137	140	50	458	3.92
Group work for learning	5	8	28	138	252	27	458	4.45
Assignments are clear	1	8	95	178	139	37	458	4.06
Reading / other resources easy to access	5	36	131	161	89	36	458	3.69
Good interaction with other students	2	3	22	123	272	36	458	4.56
Instructor access flexible and timely	15	45	127	145	89	37	458	3.59

Classroom –based learning is rated high in the following variables; good interaction with other students, group work for learning, assignments are clear, course guidelines are clearly stated and opportunities for evaluation and progress. Low ratings were given for such variables as; course accessible when needed, registration is flexible, pace of course tailored to learner and course duration tailored to learner.

### 6.70: Rating of Paper-based Distance Learning

Paper-based distance learning	Poor	2	3	4	Excellent	Total		
						Missing	Total N	Mean
Course choices tailored to learner	22	71	178	118	31	38	458	3.15
Course duration tailored to learner	10	46	149	157	54	42	458	3.48
Course accessible when needed	14	39	133	153	76	43	458	3.57
Registration is flexible	16	53	166	124	53	46	458	3.35
Course guidelines clearly stated	4	12	122	174	105	41	458	3.87
Opportunities for evaluation of progress	13	63	157	136	43	46	458	3.32
Pace of course tailored to learner	8	48	140	164	63	35	458	3.53
Technology aspects easy to learn	17	58	146	111	70	56	458	3.40
Group work for learning	130	159	90	30	9	40	458	2.11
Assignments are clear	5	24	161	146	73	49	458	3.63
Reading / other resources easy to access	6	46	169	137	55	45	458	3.46
Good interaction with other students	132	151	97	23	3	52	458	2.05
Instructor access flexible and timely	46	104	177	62	18	51	458	2.76

Paper-based distance learning is rated high in such variables as; course guidelines clearly stated, assignments are clear, course accessible when needed, pace of course tailored to learner and course duration tailored to learner. Low ratings were for such variables as; good interaction with

other students, group work for learning, instructor access flexible and timely, and course choices tailored to learner.

### 6.71: Rating of E-learning

Online learning	Poor	2	3	4	Excellent	Total		
						Missing	Total N	Mean
Course choices tailored to learner	21	38	111	174	71	43	458	3.57
Course duration tailored to learner	7	31	88	159	122	51	458	3.88
Course accessible when needed	4	6	41	152	207	48	458	4.35
Registration is flexible	8	16	93	158	137	46	458	3.97
Course guidelines clearly stated	7	10	104	168	117	52	458	3.93
Opportunities for evaluation of progress	9	40	116	168	69	56	458	3.62
Pace of course tailored to learner	4	25	61	171	153	44	458	4.07
Technology aspects easy to learn	14	43	153	132	57	59	458	3.44
Group work for learning	81	107	103	79	30	58	458	2.68
Assignments are clear	8	28	137	158	74	53	458	3.65
Reading / other resources easy to access	9	16	101	181	101	50	458	3.86
Good interaction with other students	81	95	111	78	34	59	458	2.72
Instructor access flexible and timely	47	65	144	101	45	56	458	3.08

E-learning is rated high in such variables as; course accessible when needed, pace of course tailored to the learner, registration is flexible, course guidelines clearly stated, and course duration tailored to learner. Low ratings were for such variables as; instructor access is flexible and timely, technology aspects easy to learn, course choices tailored to learner and opportunities for evaluation and progress.

### 6.72: Comparison of Three Learning Delivery Methods

	ClassRm	Distance	E-Ing	Overall
Course choices tailored to learner	3.35	3.15	3.57	3.38
Course duration tailored to learner	2.54	3.48	3.88	3.31
Course accessible when needed	2.11	3.57	4.35	3.35
Registration is flexible	2.44	3.35	3.97	3.26
Course guidelines clearly stated	3.95	3.87	3.93	3.92
Opportunities for evaluation of progress	3.92	3.32	3.62	3.64
Pace of course tailored to learner	2.52	3.53	4.07	3.39
Technology aspects easy to learn	3.92	3.40	3.44	3.60
Group work for learning	4.45	2.11	2.68	3.12
Assignments are clear	4.06	3.63	3.65	3.79
Reading/other resources easy to access	3.69	3.46	3.86	3.68
Good interaction with other students	4.56	2.05	2.72	3.16
Instructor access flexible and timely	3.59	2.76	3.08	3.17

Comparing the mean for each delivery method, classroom learning is rated the highest of the three delivery methods in seven variables which are;

- Course guidelines clearly stated
- Opportunities for evaluation of progress
- Technology aspects easy to learn
- Group work for learning
- Assignments are clear
- Good interaction with other students, and
- Instructor access flexible and timely.

E-learning is rated highest in six variables which are;

- Course choices tailored to learner
- Course duration tailored to learner
- Course accessible when needed
- Registration is flexible
- Pace of course tailored to learner, and
- Reading/other resources easy to access.

Paper-based distance learning did not rate higher in any of the variables. The data shows that while the majority of respondents indicated a preference for face-to-face learning, a number of respondents preferred e-learning in a number of variables. This data may indicate that e-learning is growing in acceptance.

### 6.73: Mean by Variable and Delivery Method

Average	Variable	Delivery
4.56	Good interaction with other students	Classroom
4.45	Group work for learning	Classroom
4.35	Course accessible when needed	E-learning
4.07	Pace tailored to learner	E-learning
4.06	Assignments are clear	Classroom
3.97	Registration is flexible	E-learning
3.95	Course guidelines clearly stated	Classroom
3.93	Course guidelines clearly stated	E-learning
3.92	Opportunities for evaluation	Classroom
3.92	Technology aspects easy to learn	Classroom
3.88	Course duration tailored to learner	E-learning
3.87	Course guidelines clearly stated	Distance
3.86	Reading/other resources easy to access	E-learning
3.69	Reading/other resources easy to access	Classroom
3.65	Assignments are clear	E-learning
3.63	Assignments are clear	Distance
3.62	Opportunities for evaluation	E-learning
3.59	Instructor access flexible and timely	Classroom
3.57	Course accessible when needed	Distance
3.57	Course choices tailored to learner	E-learning
3.53	Pace of course tailored to learner	Distance
3.52	Pace of course tailored to learner	Classroom
3.48	Course duration tailored to learner	Distance
3.46	Reading/other resources easy to access	Distance
3.44	Technology aspects easy to learn	E-learning
3.40	Technology aspects easy to learn	Distance
3.35	Registration is flexible	Distance
3.35	Course choices tailored to learner	Classroom
3.32	Opportunities for evaluation	Distance
3.15	Course choices tailored to learner	Distance
3.08	Instructor access flexible and timely	E-learning
2.76	Instructor access flexible and timely	Distance
2.72	Good interaction with other students	E-learning
2.68	Group work for learning	Distance
2.54	Course duration tailored to learner	Classroom
2.44	Registration is flexible	Classroom
2.11	Course accessible when needed	Classroom
2.11	Group work for learning	Distance
2.05	Good interaction with other students	Distance

The data shows that classroom learning received some of the highest ratings followed by e-learning.

### 6.74: E-learning Experience and Delivery Method Rating

	Has participated in Internet Learning		Has not Participated in Internet Learning		Sig
	N	Mean	N	Mean	
<b>Classroom Learning</b>					
Course choice tailored to learner	190	3.2	195	3.5	<0.05
Course duration tailored to learner	186	2.4	192	2.6	<0.05
Course accessible when needed	187	2.0	190	2.2	<0.05
Registration is flexible	185	2.4	190	2.6	<0.05
Course guidelines clearly stated	185	3.9	193	3.9	>0.05
Opportunities for evaluation of progress	188	3.9	191	4.0	>0.05
Pace of course tailored to learner	186	2.4	191	2.6	>0.05
Technology aspects easy to learn	184	3.9	181	4.0	>0.05
Group work for learning	188	4.4	195	4.5	>0.05
Assignments are clear	186	4.0	190	4.1	>0.05
Reading/ resources easy to access	187	3.6	190	3.7	>0.05
Interaction with other students	187	4.5	189	4.6	>0.05
Instructor access flexible and timely	186	3.5	190	3.7	>0.05
<b>Distance Learning</b>					
Course choice tailored to learner	186	3.1	190	3.2	>0.05
Course duration tailored to learner	183	3.4	187	3.5	>0.05
Course accessible when needed	184	3.6	188	3.6	>0.05
Registration is flexible	184	3.3	185	3.4	>0.05
Course guidelines clearly stated	184	3.9	189	3.8	>0.05
Opportunities for evaluation of progress	181	3.4	188	3.3	>0.05
Pace of course tailored to learner	186	3.5	193	3.5	>0.05
Technology aspects easy to learn	183	3.5	179	3.3	<0.05
Group work for learning	185	2.1	189	2.1	>0.05
Assignments are clear	181	3.6	187	3.6	>0.05
Reading/ resources easy to access	182	3.5	188	3.4	>0.05
Interaction with other students	181	2.1	185	2.0	>0.05
Instructor access flexible and timely	180	2.8	186	2.7	>0.05
<b>E-Learning</b>					
Course choice tailored to learner	188	3.7	182	3.4	<0.05
Course duration tailored to learner	186	3.9	178	3.9	>0.05
Course accessible when needed	188	4.4	178	4.3	>0.05
Registration is flexible	188	4.0	181	3.9	>0.05
Course guidelines clearly stated	184	4.0	179	3.9	>0.05
Opportunities for evaluation of progress	186	3.8	175	3.5	<0.05
Pace of course tailored to learner	189	4.1	183	4.0	>0.05
Technology aspects easy to learn	187	3.7	171	3.2	<0.05
Group work for learning	183	3.0	176	2.4	<0.05
Assignments are clear	185	3.7	178	3.6	>0.05
Reading/ resources easy to access	187	4.0	179	3.7	<0.05
Interaction with other students	182	3.0	176	2.4	<0.05
Instructor access flexible and timely	182	3.3	178	2.8	<0.05

The data shows that those with e-learning experience gave an overall higher rating to e-learning particularly in the following variables; course accessible when needed, pace of course tailored to learner, registration is flexible, course guidelines clearly stated, and reading/other resources easy to access. With regard to classroom learning, those with e-learning experiences gave a high rating to such variables as; interaction with other students, group work for learning and assignments are clear. Paper-based distance learning did not receive as high a rating but its strong features were; course guidelines clearly stated, course accessible when needed, pace of course tailored to learner, and technology aspects easy to learn. Those with no e-learning experience gave high ratings to the easy access and tailored features of e-learning but a low rating to e-learning on interactive group work.

In summary, Tables 6.69 to 6.74 comparing classroom, paper-based distance and e-learning found that of the thirteen variables used in the study classroom learning was rated higher in seven followed by e-learning in six. Classroom learning was favoured for its interactive features while e-learning was favoured for its responsiveness and tailored features. Distance learning while having similar features to e-learning was not rated as high. The findings also show that those with prior e-learning experience rated e-learning high in all variables but also rated classroom learning high in its interactive features. This completes the quantitative data review. The next three sections address the qualitative data of the study.

### **6.3 Qualitative data from the survey**

The survey qualitative data was collected from the open-ended questions in the survey. 61% of the 458 survey respondents provided additional comments on their current learning environment. These comments focused on four themes: management education, barriers to learning, health reform and e-learning. The following tables show the number of comments in each category and a percentage of the total comments, to give a weight to each category. The themes are presented in priority. A list of the 280 comments may be found in Appendix J. Some of these comments will be incorporated into the analysis material in chapters seven and eight.



### 6.75: Qualitative Survey Data/Theme 1- Management Education

	#	%
Problems with current management Education	68	24
The need for change in management education planning	51	18

42% of additional comments focused on the problems with current management education and the need for change in management education planning. Respondents commented on the need for management education to be available to all managers, responsive to the needs of managers working in a changeable environment, a learning environment that is student-centered, self-directed and focused on problem-solving, and the need to harmonize clinical, technical and business knowledge and skills. Their criticism of current management education is that it is not suited to a health or service industry, has not kept up with the changes in the industry, does not meet the learning needs or learning style of the individual, is not realistic to the current working environment, provides few practical skills, and the changeable working environment often does not allow time to use new skills.

### 6.76: Qualitative Survey Data/Theme 2- Barriers to Learning

	#	%
The need for educational funding	26	9
Lack of time for learning	21	8
The need for organizational support	17	6
The need for more educational credit	14	5
Learning access issues	5	2

30% of additional comments were directed at the barriers to pursuing further learning. The barrier of greatest importance was the need for equitable and innovative educational funding to assist health-care managers in their pursuit of new knowledge and skills. The second barrier was the lack of time created by increased workload and responsibilities. The need for organizational support was a barrier for some managers.

### 6.77: Qualitative Survey Data/ Theme 3- Health Reform

	#	%
Changing expectations & reduced support	30	11
A changing working environment	20	7

18% of the additional comments focused on the changing working environment of respondents due to health reform. Respondents commented on the pace of change, the change in management style in a restructured organization, changing expectations and the need for increased skills, reduced support, increased problems with new and inexperienced managers, reduced number of graduated promotional opportunities, and the growing divide between clinical/technical and business knowledge.

**6.78: Qualitative Survey Data/Theme 4- E-learning and Knowledge Sharing**

	#	%
Positive/negative views	20	7
A need for knowledge sharing	8	3

10% of additional comments were focused on e-learning and knowledge sharing. Since there were other questions in the survey devoted to e-learning this lower response was not unexpected. Respondents indicated new learning options were needed and favoured a blended, rather than a pure e-learning method, which would allow for some face-to-face learning. The need for mentoring and knowledge sharing was noted by a few respondents.

In the additional comments, survey respondents mainly focused on why current management education opportunities were not meeting their learning needs and the barriers preventing them from pursuing additional learning. The need to address the financial inequities for additional education appears to be an important issue for some health-care managers.

In the second qualitative data item, survey respondents were asked to identify the top three competencies in which they needed training in the next twenty-four months, using as their guide the fourteen competencies found in the survey instrument. The following list provides a ranking of the survey respondents’ learning priorities, starting with the most important competency learning need. The prioritized list is as follows:

- Evidence-based Management (*most needed training*)
- Change and complexity
- Financial Analysis
- Project Management
- Evaluating Management Plans
- Quality Improvement
- Leadership Skills
- Conflict Management

- Communication and Information Technology Use
- Governance and Policy Development
- Contract Management
- Human Resource Management
- Use of Statistics
- Contract Management (*least needed training*)

Further analysis of the top three educational topics (i.e. evidence-based management, change and complexity and financial analysis) by gender and age provided the following information:

**Table 6.79 : Top Three Competency Learning Needs by Gender**

Key Skill Training Areas	Male	Female	Total	%Male	%Female
Evidence-based Management	36	110	146	25%	75%
Change & Complexity	41	92	133	31%	69%
Financial Analysis	27	100	127	21%	79%
All Survey Respondents	125	333	458	27%	73%

Taking into account the male/female distribution in the survey, more females than males selected the top three competency learning needs.

**Table 6.80: Top Three Competency Learning Needs by Age**

Key Skill Training Areas	<40	41-45	46-50	>51	TOTAL
Evidence-based Management	20	24	38	64	146
Change & Complexity	23	25	33	52	133
Financial Analysis	18	13	35	61	127
All Survey Respondents	71	66	118	203	458

Key Skill Training Areas	% <40	%41-45	%46-50	%>51	TOTAL
Evidence-based Management	14%	16%	26%	44%	1
Change & Complexity	17%	19%	25%	39%	1
Financial Analysis	14%	10%	28%	48%	1
All Survey Respondents	16%	14%	26%	44%	100%

Taking into consideration the age group distributions in the study, the top three competency learning needs were selected mainly by those over 46 years of age. The three top competency learning needs of evidence-based management, change and complexity and financial analysis were mainly selected by females and those over 46 years of age.

In addition to the fourteen competencies used in the survey instrument, survey respondents were asked to identify additional competencies which they regarded as important in their current management activities. These additional competencies have been collated into four categories: people skills, business and customer skills, planning skills and general skills.

- *People skills*: relationship building, coaching, counseling, mentoring, working with teams, dealing with workplace diversity, mediation, labour relations, behaviour management, recruitment and retention, personnel evaluations, occupational health, and stress management.
- *Business and customer service skills*: developing business proposals, customer relations, community development, managing multiple sites, marketing in the public sector, organizational theory, system integration, and public policy.
- *Planning skills*: vision and value development, understanding health system limitations, trends in health care, innovative resource management, understanding health care laws and regulations, assessing outcome accountability, capital and project planning, global planning, process redesign, program evaluation, product/ service evaluation, strategic planning, knowledge management, and survey methodology.
- *General skills*: time management, creativity, decision-making, emotional intelligence, ethics, facilitation, negotiation, teaching, presentations, understanding the politics of health care, problem solving, systems thinking, health care law, public relations, and public speaking.

These additional skills have been captured in the health-care manager learning needs list in Appendix H.

In the third qualitative data item survey respondents familiar with e-learning were asked to list the advantages of this educational delivery method. 417 written comments were received. The top six advantages are identified in the following table.

**Table 6.81: The Main Advantages of E-Learning**

Advantage	Count	Percent
Convenience	174	42%
Flexibility	122	29%
Interactivity	43	10%
Accessibility	37	9%
Less time & travel	30	7%
Easier evaluation	11	3%
Total	417	100%

Of the 417 advantages identified for e-learning, convenience was the primary advantage with many respondents noting the benefit of being able to work and study at their desk or from home. Flexibility was the second key advantage as respondents appreciated a learning environment which enabled them to study at their own pace. These points will be examined further in chapter eight.

In summary, in the qualitative data survey respondents provided additional insight into their working environment, problems with current management education opportunities, barriers to learning, new skill needs and, for those familiar with e-learning, a listing of the advantages of this delivery model. Senior health-care managers, the focus of the next section, while addressing similar topics tended to be more concerned with sustainability of the industry.

#### **6.4 Qualitative interview data**

Interviews with senior health-care managers resulted in about 121 quotes which focused on five themes: essential management skills, health reform, management education, e-learning and knowledge sharing. As in 6.3, the themes are presented in priority. A listing of comments may be found in Appendix K. Some of these comments will be incorporated into the analysis material in chapters seven and eight.

##### **6.82: Qualitative Interview Data/ Theme 1-Essential Management Skills**

	#	%
People skills	13	11
Change and complexity	9	7
Financial skills	7	6
A clinical background is no longer enough	5	4
Planning skills	2	2

30% of comments of senior health-care managers stressed the need for new management skills with emphasis on people skills in knowing how to deal with multiple stakeholders and working in teams, how to deliver health services differently in a changing environment by working smarter with greater resiliency, in understanding how to manage with shrinking resources by being more business-oriented, and in understanding the need for new skills. Statistical skills were tied to increased financial skills.

**6.83: Qualitative Interview Data/Theme 2-Health reform**

	#	%
Anticipated changes in the health industry	11	9
Not enough support for managers	9	7
The need for succession planning	8	7
Inadequate support for new managers	5	4
Stress in the workplace	3	2

29% of the comments of senior health-care managers focused on health reform and anticipated ongoing reform in the next five to ten years. Senior health-care managers envisioned more change from another complete reorganization of the industry to partial shifts in centralization and decentralization. Others saw increased physician input into management activities, greater public purchasing of private services, increased need to be more innovative in addressing the health needs of an aging population, and a need for greater harmony of services within a region and communications among the management levels. Senior managers recognized that there was inadequate support for managers and, particularly, for new managers. The need for succession planning was a central issue for most senior managers in light of the recruitment and retention problems already being experienced in the industry.

**6.84: Qualitative Interview Data/Theme 3-Management Education**

	#	%
Lack of time for learning	6	5
The type of management education is unclear	5	4
Learning is a personal responsibility	4	3
Management education as a promotion policy	3	2
Need for a management education plan	2	2
Need for financial support	2	2

18% of the comments of senior health-care managers focused on a lack of time for learning because of increased workloads but some felt that learning was a personal responsibility and that some managers lacked motivation for additional learning. However, there was an awareness that

the industry had not been clear on what type of learning was essential for health-care managers in the newly reformed environment, nor had they specified management education in the promotion or hiring of managers. While survey respondents regarded financial support as essential to additional learning, senior managers did not, likely because they are the primary recipients of such funding at the present time.

**6.85: Qualitative Interview Data/Theme 4-E-learning**

	#	%
Technology as a barrier	6	5
Preference for blended learning	4	3
Need for different learning methods	2	2
Some managers already familiar with e-learning	2	2
Need for quality e-learning programs	1	1
Need for tutors with e-learning	1	1

14% of the comments of senior health-care managers focused on e-learning with the largest number of comments directed towards a concern over the technical abilities of their managers for such learning. At the same time, they acknowledged that they themselves or other senior managers had recently taken an online course with few difficulties. Most senior health-care managers felt that e-learning was inevitable for health-care managers as classroom learning was too time consuming. One senior health-care managers questioned whether there were sufficient quality e-learning materials and others speculated that a blended format might better suit the health industry. The underlying point of most interviewees was the cost of such education on an industry already struggling with limited resources.

**6.86: Qualitative Interview Data/Theme 5-Knowledge Sharing**

	#	%
Managers need to be able to locate people and information	8	7
Some managers already familiar with knowledge sharing	3	2

9% of the comments of senior health-care managers focused on knowledge sharing. They acknowledged that with the restructuring of the industry managers needed better opportunities to locate people and information quickly. While some health-care managers with clinical/technical responsibilities already had some form of knowledge sharing, it was not management specific. Senior health-care managers pointed out that while they might have a small network of colleagues they regularly contacted, the majority of health-care managers did not have a management network for sharing of knowledge and expertise.

In summary, interviews with senior health-care managers focused on ongoing health reform and what this might mean to health-care managers with regard to new skills, education and support networks. Most interviewees felt that increased e-learning was inevitable but they were unclear as to how this could be implemented in an industry already struggling with limited resources. Nevertheless, they understood that a new health management learning strategy was needed if the industry was expected to retain current managers and recruit future leaders.

## **6.5 Qualitative data from stakeholders**

The purpose of the stakeholder interviews and meetings was to validate the survey findings. Following the release of the health authority report “ *Management Education Needs and Delivery Options for Health-care Managers*”, I contacted the health authorities for their comments. These interviews provided the following feedback:

- Most of the health authority representatives were impressed with the survey findings as they did not have such data. They stated that the data supported their underlying feelings on management education after years of health reform, but now they had actually research data. They felt that this would give them increased support for their educational planning. There was little disagreement with the findings.
- There was a confirmation that the health-care management group were aging and that the industry was facing a major retention and recruitment issue. With increased workloads and responsibilities the industry was having increased difficulties attracting capable individuals to the management ranks.
- The digital divide was confirmed between younger (i.e. those under 40 years of age) and older health-care managers, and the issue was affecting the introduction of new technologies throughout the industry. While the health authorities acknowledged they provide computer training programs, they did not retain any data on the number of health-care managers who may have taken this training; their feeling was that few had the time for such training.
- There was no surprise in the three top learning needs identified by survey respondents. In the opinion of the representatives the first learning need of evidence-based management, was attributed to the need for increased evidenced-based decision-making with the adoption of a corporate management structure. In light of ongoing health reform the need for ongoing change and complexity learning was understood, particularly in knowing how to manage an environment that keeps changing. One interviewee stated



that he was surprised that the complexity of the health industry did not receive greater emphasis. Financial analysis as the third learning priority was understood as needed in an environment of limited resources and the need to do more with less. They also acknowledged that there was likely a greater need for some clinical/technical managers to acquire financial skills as this may not have been emphasized in their professional educational programs.

- E-learning was considered to be inevitable in the industry but the availability of quality learning materials and costs were key issues to its implementation. A blended format was considered best for the health industry as it would give options for those more familiar with face-to-face learning. In addition, they emphasized that the health industry was a people industry which required greater face-to-face communications.
- The concept of a corporate health university was also discussed as an idea for the health industry of British Columbia in line with the NHSU model being considered in the United Kingdom. The idea appealed to the health authorities as a means of addressing their learning issues. One representative expressed concern over the removal of education from the corporate management level during health reform. In her view, over the past ten years education had slipped from senior management interest to being a sub-division of the human resource department, a situation which had increased funding difficulties and decreased the leadership status of education within the industry.
- Another representative noted that with all the changes in the health industry there was need for more research to separate the service delivery issues from learning needs, arguing that simply increasing funding for education may not fully address the service delivery problems.

Meetings with industry stakeholders emphasized the same points as were identified by the health authority representatives. In addition, at the CCHSE local meeting, a check on the age of those attending the meeting again emphasized the dominance of the aging factor with only two of the thirty attendees being under forty. At this meeting there was also a lengthy discussion on whether health-care managers should have a general management education or a health-focused management education program. The end result was that most members felt the health management component needed greater emphasis in management education particularly in addressing the complexity of the industry following health reform.

In the meeting with ten members of the Vancouver Island Health Authority faculty, while they acknowledged a need for increased skill training for managers, they could not see how their current curriculum could be changed to accommodate this additional learning. In addition, they felt that e-learning was inevitable, but they were not considering this delivery option and did not have any faculty member with such skills.

At the Royal Roads University symposium there was a great deal of discussion on what was needed in the education of health-care managers with a representative from the United Kingdom there to discuss their experience in this process. The results of my survey report to the health authorities was noted as the most recent study on the learning needs identified by health-care managers who had experienced years of health reform. The timely nature of my study was noted and the need for more e-learning but there was no further discussion on learning technologies.

In summary, interviews and meetings with industry stakeholders validated the survey findings with many emphasizing the timely nature of the study and the need for such data to support educational planning for the province. The need for new management skills was supported but with educational divisions, already facing restricted funding, finding e-learning a difficult new venture for the industry. As one senior health-care manager emphasized, “there is no doubt that e-learning is needed for management education, what is needed is a prominent champion in the industry to promote the idea”.

## **6.6 Triangulation of datasets**

In the triangulation of data from the four datasets five key issues emerge such as: the aging of health-care managers, health reform, the need for new skills, e-learning and the digital divide. These issues will be examined briefly in this section.

The quantitative survey data supports the growing concern over the aging of health-care managers with the majority of respondents being over 46 years of age. This was supported in the qualitative survey comments of respondents who emphasized the problems of increased workloads, stress and interest in retirement. It was more pronounced in the senior health-care management interviews as they commented on the need for succession planning and their difficulties in recruitment and retention of industry leaders. The stakeholder meetings highlighted the aging factor in that there were few managers in attendance under forty years of age. Stakeholders concurred that the aging of health-care managers was also apparent in their organizations and stressed the vital need for succession planning. The aging of health industry

leaders will present many new challenges in the years ahead particularly as the baby boomer generation retires.

Health reform remains a growing concern for the industry. In the quantitative survey data respondents identified the effect it has had on their learning environment. In their qualitative comments, survey respondents emphasized the shift in workload and responsibilities created by health reform and the affects on their time, which is preventing them from pursuing additional learning. Interviews with health-care managers emphasized the ongoing reform which the industry expects in the years ahead and their awareness that managers, particularly new managers, were not receiving enough support in dealing with their new responsibilities. At the stakeholder meetings, health reform was incorporated in discussions of new skill requirements for health-care managers and the need for future managers to have increased skills so they could be more resilient in meeting ongoing change in the industry.

New skills requirements was evident in all four data collection sources. The quantitative survey data provided data on the current skills of respondents, on where they acquired such training, how they rated themselves in a small number of skills and how their educational background has affected their learning choices. In the qualitative survey comments respondents ranked their skill training priorities and presented additional skill needs to the fourteen used in the survey instrument. Senior health-care managers pointed out the need for managers to be able to work differently and smarter with limited resources and be more adept at dealing with change. They supported the top three skill training priorities identified by survey respondents recognizing that these were skills which could be attributed to health reform. Stakeholders agreed with the need for managers to have new skills, supported the top three priority skill needs and emphasized a need for improved management education and research.

With regard to e-learning, the quantitative survey data provided considerable information. Data was provided showing that some respondents were already familiar with e-learning, the majority felt they had the technical skills for such learning and they rated e-learning against classroom and paper-based distance learning. In their qualitative comments survey respondents provided insight into their support for a blended learning method which would allow some face-to-face contact. Those familiar with e-learning also listed the advantages of such learning. Senior health-care managers agreed that e-learning was needed for managers as classroom learning was too time-consuming. Some were concerned over the technical abilities of their managers for such learning, while others questioned the costs and method of implementation. Stakeholders also

supported the need for increased e-learning for health-care managers but were equally unclear as to how this would be accomplished.

The digital divide in the industry was identified by all four data sources. In the quantitative data it was apparent that those under 40 years of age were more comfortable with using technology for learning. The quantitative data also showed that the majority of respondents favoured face-to-face learning while others indicated they had technical difficulties with regard to such learning. In the qualitative survey comments respondents emphasized that e-learning was not for everyone, and supported a blended learning form. Senior health-care managers noted how the digital divide was affecting their day-to-day management practices with older managers avoiding technology while younger managers, skilled in technology, had difficulty in creating acceptable reports. Stakeholders included technological skills in their overall discussion of new skills for managers. They concurred that a digital divide existed in the industry, that many managers had little time for computer training, and some felt that if this issue was not addressed it would hinder the introduction of new technologies in the industry.

In summary, the triangulation of data collected from four datasets validated the findings in the study providing greater depth in understanding how health reform, aging, gender, educational background, technical skills, and other variables are affecting the learning choices of health-care managers and creating barrier to their learning. Further analysis of this information will be done in chapters seven and eight.

## **6.7 Conclusion**

The findings chapter included data from both quantitative and qualitative sources. The quantitative survey data shows that the majority of respondents were female (72.7 %), over 41 years of age (84.5 %), had an undergraduate degree (82.4 %) and/or a postgraduate degree (51.1 %), had taken a management course in the last year (67.0 %), were from regional/program (or middle) management levels (81 %), and work in an urban location (91.3%) in the most populated regions of the province (66 %). 43.2 % of those with undergraduate education and 45.8 % of those with postgraduate education are 51+ years of age. 17.7% of respondents have no undergraduate education and 48.5 % have no postgraduate education.

Females outnumber males at all three management levels (executive, regional and program). Executive level management has the highest level of education. The majority of respondents at the regional management level have business/ management undergraduate and/or postgraduate education. The program management level has the most respondents with health-related

undergraduate education, and with both clinical and business education. The majority of those with nursing education are at the program management level who are mainly female, over 41 years of age and 30.9% have had some management training. The largest number of respondents with no undergraduate or postgraduate education are at the program management level.

The majority of those attending management training have undergraduate education or no degree. 29% of managers have no training in the fourteen competencies and 57% received their competency training through in-service, workshops and seminars. The majority of respondents rated themselves high in change and complexity and people skills (i.e. leadership skills, conflict management, human resource management, and communications and information technology use) and lower in planning and financial skills. There were some gender and education variations. Those with formal education (i.e. undergraduate and/or postgraduate education) rated themselves higher in all competencies than those with in-service/workshop or no training. Those with prior competency training were more likely to see the need for further training.

The majority of survey respondents realized that their learning environment has been changed with health reform. The three key issues are increased learning responsibilities, the need for new skills, and a difficult working environment for learning. Those experiencing these problems are female, over 41 years of age, working in an urban location with both undergraduate and postgraduate education. The majority of respondents want more academic credit for both their experience (60.5 %) and other learning (76.4 %). Those seeking more academic credit are female, 51+ years of age, with undergraduate and postgraduate education.

The data shows that 66.6% of respondents are familiar with distance learning, mainly females, 51+ age group, working in urban locations with both undergraduate/postgraduate education. 43% of respondents have e-learning experience, mainly females, 41 years and older, working in urban locations, with both undergraduate/postgraduate education. 85% of respondents indicate they have the computer/Internet skills for e-learning; mainly those with undergraduate/postgraduate education in the majority.

The reasons why e-learning was not chosen showed that 43% of respondents preferred face-to-face learning; mainly females, 51+ years, with undergraduate/postgraduate education. 40% identified technological problems; mainly females, 41-50 years of age, with undergraduate education. A third reason, a lack of awareness of e-learning resources were mainly females, 51+ years of age with no degree.

In comparing three educational delivery methods (classroom learning, paper-based distance learning and e-learning) against a list of thirteen variables, classroom learning was favoured in seven variables and e-learning in six. Classroom learning was preferred in features of clear directions, group work and evaluation. E-learning was preferred in features of easy access and tailored learning. Those with prior e-learning experiences rated e-learning higher than other delivery methods but also acknowledged the group/interactive features of classroom learning.

The qualitative data supported and strengthened the quantitative findings providing more detailed comments on management education, barriers to learning, health reform, e-learning and knowledge sharing. Survey respondents prioritized their learning needs and ranked evidence-based management, change and complexity and financial analysis as their first three learning priorities. While this list varied slightly from that provided in the quantitative data, these top three learning needs were supported by stakeholder discussions. Survey respondents also provided a prioritized listing of e-learning advantages with convenience, flexibility, interactivity, and accessibility as the top four. In chapter eight these advantages will be compared with the comments found in the literature.

Five key issues were identified in the triangulation of data from the four datasets; the growing concern over the aging of health-care managers, ongoing health reform, the need for new skills, the receptivity of health-care managers to e-learning and the digital divide. The triangulation of the data validated the findings in the study.

The pattern emerging from the data shows that these older health-care managers are aware their learning needs have changed with health reform, new skills are needed quickly, and they are ready to identify their learning needs. However, there remains some uncertainty about what skills to pursue as the health authorities have not clearly stipulated what management skills are needed in the newly reformed health industry. While the majority of respondents are currently comfortable with a classroom delivery format some have already considered distance and e-learning in their search for professional development. Since the majority of respondents feel they have the computer/Internet skills for e-learning, it may indicate greater receptivity to this form of learning. In the next two chapters the quantitative and qualitative findings in this chapter will be analyzed. The focus of chapter seven will be on management education, and the focus of chapter eight will be on e-learning.

## Chapter 7

### Analysis: Management Education Needs

---

*Leadership and learning are indispensable to each other.*

*– John F. Kennedy*

#### 7.1 Introduction

This chapter, the first of two analysis chapters, will concentrate on explaining how health reform has changed the learning needs of health-care managers. Chapters two and three presented information on the underlying reasons for health reform and the affects of such change on the industry and its managers. For health-care managers health reform has increased organizational complexity, reduced the overall number of managers and created new skill demands. A different type of manager may also be needed in this restructured health industry. The need for new learning has come at a time when health-care managers face increased responsibilities, reduced time for study and, as noted in chapter four, a realization that existing health management educational opportunities may not be suited to their new learning needs. In reviewing health management education needs, the analysis in this chapter will incorporate quantitative data presented in chapter six along with qualitative data obtained in the survey, interviews and stakeholder discussions.

The intent of this chapter is to obtain the views of currently employed health-care managers on how health reform has changed their management and learning environments. Of importance is whether more health reform can be anticipated. The views of senior health-care managers will show that ongoing reform will occur in the industry, which means organizational uncertainty will remain for health-care managers. This uncertainty will be compounded as public policy continues to swing between a centralized and/or decentralized industry model. Such change means that health-care managers face not only current but ongoing new skill demands. The purpose of this chapter is to understand the current skill training needs of health-care managers so as to ascertain the short-term learning priorities.

Competency education for health-care managers, mentioned in chapters three and four with survey findings presented in chapter six, will be examined in more detail in this chapter using the fourteen competencies identified in the survey instrument. These competencies will be used in analyzing the current competency training needs of health-care managers. The

information will show that health-care managers have limited training in most of the fourteen competencies, with some concerns as to whether they have adequate training in change management which has dominated their workplace for many years. The selection and promotional policies for health-care managers will also be examined as to whether these synchronize with the current learning shift.

The learning challenges, previously introduced in chapter four, will be reexamined as to whether data obtained from health-care managers concurs with what is known in the literature. The information in this chapter will show that health-care managers are aware that health reform has changed their learning environment and are critical of some of their current learning opportunities. This chapter will also present the views of health-care managers with regard to how workload, lack of time, organizational support, and credit currently affect their learning capabilities. The information will show that health-care managers face time and support issues which will need to be addressed if they are to meet their new learning goals.

To address these issues, this chapter has three main sections: health reform, the need for new management skills, and learning challenges. Each of the main sections has a number of sub-sections with each presenting a different conclusion to the study. Data from chapter six will be used in this analysis along with the qualitative comments from survey respondents, senior health-care manager and industry stakeholders. The first section focuses on health reform.

## **7.2 Health Reform**

Health-care managers have experienced considerable change in their working environment in the past decade due to health reform and may face even more challenges in the years ahead. Chapters two and three introduced the reasons for health reform and what this has meant to health-care managers. In this chapter the findings in this study will present further information on health reform by examining the following five areas; increased complexity with organizational change, ongoing health reform, basic education for health-care managers, the clinical/non-clinical issue, and a changing learning environment.

### **7.2.1 Increased complexity with organizational change**

*Conclusion #1: Health-care managers understand that health reform has increased the complexity of their organizations.*



In the views of health-care managers, health reform has introduced both structural and decision-making complexities, as is evident in the following comments of survey respondents:

The health care environment is in a constant state of change. Employers are demanding and unreasonable in their expectations of managers. There is a high burnout rate and no real recognition of the needs of managers.

With amalgamation of the health industry the style of management has had to change rapidly and so much is in flux that it is hard to grasp what is really necessary [i.e. in education].

Another survey respondent commented on the meeting process which has been created by health reform:

Healthcare management has become tied up in red tape and meetings. We have meetings so that we can set a date for the next meeting and no one wants to make a decision on their own anymore. In the private sector, decisions get made and implemented in the same day. In healthcare it takes three months to do anything. We need to simplify the decision-making process and get on with the job.

Little research has been carried out on the cost effectiveness of such face-to-face meetings and how technology might facilitate the process and possibly improve costs. In addition, the newly reformed environment, according to one survey respondent, has even changed the way managers are expected to think:

Managers are now more routinely expected to think conceptually, plan and act strategically across complex interacting systems of care and service delivery.

In interviews with senior health-care managers, similar concerns were expressed particularly over the pace and expectations created by organizational change:

Change is coming fast and furious. Managers are doing their jobs but some are finding this constant change very wearing. The financial constraints are ongoing and more is expected as we try to do more with less. Some see no end in sight and even more cutbacks. There are some managers who are already looking for other options such as early retirement and getting out of the health industry.

Today there is a tremendous dedication in health care but a sense of being overwhelmed, with feelings of never doing enough, never getting enough resources and constant pressure to try and do more. There is never enough time for professional development. There is also not enough time for reflective and critical thinking. Managers are in need of learning how to think.

One of the most serious effects of health reform may be its effect on new managers. While the population of new managers created by health reform is considered to be about thirty to fifty percent within a health authority, the percentage may be even higher if the following comment of a senior health-care manager is taken into account:

Everyone [managers] is in a new role as the health authority has had a number of major reorganizations in the past years and everyone's role has changed.

Another senior health-care manager, provided another perspective of the difficulties being faced by new managers, as follows:

About fifty percent of our managers are in new positions and while most have strong clinical expertise, they do not have the option for additional management education or help with feelings of isolation and needing increased confidence in dealing with their new responsibilities.

Senior health-care managers felt there was little or no support for new managers in the form of orientation and/or mentoring. The availability of management orientation and/or mentoring was described in chapter four, and in most health authorities it was minimal and if it existed at all was mostly focused on senior managers. This lack of support was also evident in the comments of survey respondents:

Many managers have 'fallen into' the positions with little or no management background or skills in key areas like human resources.

It is very important to have many opportunities to grow and learn as a manager. It is a skill that can be learned with experience, however new managers are expected to be competent from the beginning.

With a flat organization there is a significant reduction in the number of graduated leadership learning opportunities. An inexperienced person is often sent into a complex environment as a novice manager with little support.

As noted in chapter three, the traditional progression through the organization for managers has been interrupted with health reform, which has resulted in managers with limited

management experience being promoted into complex management portfolios. Another survey respondent pointed out the waste of time and resources which is occurring as a result of this lack of support for managers in the following comment:

Managers are not oriented to their positions which leads to an incredible waste of time as they flounder about in the first months while on the job.

Having a web site for managers is no guarantee they access the information as was noted in chapter four as no utilization data is maintained. This means that there is little research into how information is being distributed to new or relocated managers which is reflected in the following comment of another survey respondent:

I am an interim manager brought from retirement for a short term, at last minute with no orientation or previous management courses beyond Head Nurse years ago and IC [Intensive Care] part time for many years.

Thus, senior and frontline health-care managers are aware of the changes to their working environment due to health reform and the increasing new issues created by such change. The problem is that the health industry has not had sufficient time between the three reorganizations to carry out in-depth research on how such change has affected either the workload of managers or managerial processes. As traditional management policies and practices became obsolete, health-care managers have, in many instances, been left to improvise to accommodate shifting service and managerial demands. Much of this adaptation has not been recorded. As noted in chapter five, this research may be the first study on health-care managers to be carried out in British Columbia. Because of this lack of research, there has been equally little research on how organizational change has affected the learning needs of health-care managers. To address these issues, the health industry needs to provide greater encouragement and funding for research on the effects of health reform on managers, managerial processes and learning, and on developing innovative measures to deliver health care differently (e.g. improved patient flow or the use of new service delivery technologies) in light of ongoing challenges to the industry. The need to improve the working environment for managers is critical as health reform is expected to continue.

### **7.2.2 Ongoing health reform**

*Conclusion #2: Health-care managers are aware that challenges will continue with ongoing health reform.*

In chapter two, fiscal pressures were identified as the main reason for health reform with public policy makers re-designing health programs and services to provide incentives for

greater efficiency and effectiveness. Different reform models were adopted by different countries with Canada mainly focusing on regionalization. In its most recent version of regionalization, British Columbia created six health regions (i.e. five regional and one provincial) in which all health services are integrated under one regional corporate board. The regionalization model in British Columbia created an additional layer of bureaucracy for the industry, adding it to ongoing federal and provincial government involvement in health care. Analysis of health reform methods found that while some efficiencies were introduced, the reform process also created its own set of problems. Health Authority Board members continue to complain of too much central government control, of vested interests (i.e. doctors, special health needs groups) having too big a say in decision-making, and of unclear reform objectives. For many health stakeholders and the public, the reform process has brought concerns over a loss of service quality and questions of any savings. In addition, as the six health authorities evolve, new bureaucratic structures emerge along with new barriers in coordination and cooperation, further increasing the complexity of health service delivery.

Arguments for and against the decentralized (i.e. regional health authorities) governance plan continue. Some senior health managers believe that a partial centralization has already crept back into the industry with increased provincial (i.e. Ministry of Health Services) management of telecommunications, data analysis, finance, surgical and emergency services. A pure decentralized or centralized system may never be feasible as public policy makers experiment with a continuum of management models. Educational opportunities focusing on the management issues of how to adapt to these shifting decentralized/ centralized models are currently not evident in the health authorities or in higher education. Yet, health-care managers are expected to not only recognize the signals to such shifts but have the necessary skills ready to adapt a complex service industry when changes are introduced.

With over thirteen years of change, a fundamental question remains as to whether this was a temporary shift in the industry or the beginning of an extended trend. Interviews with senior health-care managers confirmed their view that the past period of reform was not an isolated event but the beginning of an ongoing reform process which may take years to unfold. Senior health leaders indicated that while the anticipated path of such change may depend on political policy, shortages of resources, new technologies, and global demands (i.e. pandemics and other global issues), change would continue. They expected the current provincial government's (i.e. Liberal political party) policy of decentralization to be extended to include physician and Pharmacare (i.e. prescription medications) payments being transferred to regional health authorities. In addition, increased change is anticipated in a number of areas such as; diagnostic laboratory services, public funding of private services, more and

innovative community health services for an aging population, better management of chronic diseases, more innovative human resource methods to deal with shortages, and more outsourcing of services. This means there will be increased change and complexity ahead for health-care managers. But ongoing change, in light of the already complex organizational environment created by thirteen years of reform, may not bode well for the health industry's recruitment and retention of capable leaders.

Senior health-care managers reiterated the need for succession planning in light of the expected human resource needs facing management in the next five to ten years. Such views were expressed by two senior health-care managers as follows:

With the average age for Directors being fifty-four, and fifty for managers, we are in a need of succession planning if many positions are to be filled in the near future. We need to know how to prepare managers at different levels to move up.

The organization needs to make sure they have the proper people in place for stability. It is essential to train the backbenchers to assume a higher management role.

However, the current working environment may be a disincentive for individuals interested in pursuing a management career as noted by one survey respondent:

I think that management positions are less desirable in health care due to many changes and challenges. Because of this managers are leaving and new, inexperienced people are being given these jobs without adequate an educational background. I am one of these.

Equally, a senior health-care managers observed:

We are looking at a retirement issue in the next ten years due to the age of many managers. In addition, we are having problems getting professionals to take middle management positions as the financial benefits are low and they do not have the training and support that would help them.

These comments support one of the key recommendations of the CCHSE 2000 survey which stated that:

Succession planning and training of future leaders should become an immediate preoccupation of healthcare organizations, professional associations, universities and governments (Armstrong, Brunelle et al. 2000:16)

The dilemma facing the health industry is how to improve the attractiveness of a management career after years of health reform. As the drivers of change (e.g. increased

productivity from knowledge and service workers, service quality, responsiveness, globalization, outsourcing, partnering and social and environmental responsibility) envelops the industry. Such change may require a new form of leadership according to Wheatley who argues that:

.....we need the courage to let go of the old world, to relinquish most of what we have cherished, to abandon our interpretations about what does and doesn't work. We must learn to see the world anew (Wheatley,1994:5)

In her view, to achieve this change organizations designed in the Newtonian images of the seventeenth Century will need to be recreated to meet the demands of the twenty-first Century. As the health industry has just begun to shed its seventeenth century image, further challenges are inevitable, which escalates the task of recruitment and retention of health industry leaders. To improve the working environment of managers the industry may have to demonstrate its willingness to invest more funds in research and provide increased benefits and incentives for its managers. Greater research will be needed to give the industry guidance in the best routes to consider. However, a lingering question remains as to whether the industry can resolve the growing divide between clinical and non-clinical managers.

### **7.2.3 Basic education for health-care managers**

*Conclusion #3: Some health-care managers are beginning to realize their basic degree may no longer provide them with adequate training for their new working environment*

According to Fullan, it is important for leaders to not only understand the change process but to be able to develop knowledge and share it in order to “mobilize the collective capacity to challenge the difficult circumstances”(Fullan 2001:136). Fullan believes this collective energy is needed in today's organizations because:

We demand that leaders solve, or at least manage, a multitude of interconnected problems, that can develop into crises without warning; we require them to navigate an increasingly turbulent reality that is in key aspects, literally incomprehensible to the human mind; we buffet them on every side with bolder, more powerful special interests that challenge every innovative policy idea; we submerge them in often unhelpful and distracting information; and we force them to decide and act at an ever faster pace (Fullan 2001:2)

Such demands on organizational leaders make it critical that the selection of individuals for such key organizational roles is based on criteria that assures the organization that the best individuals are chosen. As noted in chapter three, since the incorporation of Medicare there

has been an evolution in the qualifications for a management position in the health industry. In the past four decades the qualifications have shifted from leaders with a military or religious background to those with clinical/technical expertise and in recent years to those with greater financial and/or corporate qualifications. Currently, the health authorities insist their hiring policy for managers is adequate as it stipulates undergraduate or postgraduate qualifications which is evident in the data found in chapter six. The data showed that 82.4% of health-care managers have undergraduate education; 50.7% in a health-related area with the majority of that group (29.7% ) in nursing. 9.2% of the 31.7 % of those with non-clinical undergraduate education had education in business/management. 51.1% of health-care managers have postgraduate education; 35.5% in a non-clinical area with 23.1% of that group in a business/management area. Yet, the data also found that 17.7% of health-care managers had no undergraduate education and 48.5% had no postgraduate education. The only comparable study is the May 2000 CCHSE survey which found that fifty-one percent of the Chief Executive Officers had a master's degree (Armstrong, Brunelle et al. 2000:4), findings which are similar to this study. Those with no undergraduate or postgraduate education are mainly in the program management level of the industry where the largest number of managers exist. The executive management level has the highest amount of undergraduate and postgraduate education, which supports the educational funding priority which currently exists in the industry.

The findings also show that those with health-related undergraduate education tended to pursue postgraduate studies in the same health-related field. But some did pursue business/management education as 12.7% of health-care managers have both clinical and business undergraduate and/or postgraduate education. The largest percentage of those with one clinical degree (46.8%) or one business degree (38.2%) are in the over fifty-one age group. 44.8% of those with both clinical and business degrees are in the forty-one to fifty age group. Females outnumber males in having at least one clinical degree (82.2%) and in having both clinical and business degrees (84.5%). Males and females were equally represented in having one business degree. The majority of females (73.7%) had undergraduate education and (71.2%) postgraduate education. Those with nursing education were mainly females, over forty-one years of age, who worked at the program level of management. Only 3.9% of those with nursing education are in the executive management level. What does all this mean for health-care managers?

The data supports the information provided in chapter four which showed that current management education funding in the industry is primarily directed at senior level managers. In comparison, program managers, where the largest number of managers are employed,

have the highest percentage without undergraduate or postgraduate education. The data on undergraduate and postgraduate education shows the magnitude of the educational challenge facing the industry since there is still a percentage of managers without undergraduate and almost fifty percent without postgraduate education. The challenge escalates further if higher educational qualifications (i.e. postgraduate education) and/or management/business education become basic requirements.

Another finding of the study was that 84.5% of the study population were forty-one years and older, with 44.3% in the fifty-one and older age group. The only comparable study is the 2000 CCHSE survey which found that 57.4% of Chief Executive Officers in the health industry were forty-five to fifty-five years of age (Armstrong, Brunelle et al. 2000:2). This study confirms the aging of the health-care management group and the need for succession planning in the industry. But this aging factor might also present an opportunity for the industry to stipulate what educational background is essential for the industry as the over fifty-one age group prepares to leave the industry. Since, according to the findings of this study, a percentage of managers have already considered a business education as a complement to their clinical education, is this educational combination a signal for the future? The health industry can no longer be complacent in assuming that in stipulating higher educational credentials (i.e. undergraduate or postgraduate degrees) as the prerequisite for a management position that the industry is getting the management competencies needed. The findings show that even though health-care managers hold undergraduate and/or postgraduate qualifications, the majority do not have training in a number of basic management competencies. Only twenty-eight percent of competencies are acquired through undergraduate and postgraduate education, and this training is mainly focused on people skills and the use of statistics. A further discussion of competencies will be addressed in 7.3. In this section, the question remains whether undergraduate and/or postgraduate education, as currently designed, can produce graduates with sufficient skills needed to manage a complex public service industry. The data seems to question that premise.

While the current argument holds that leaders with a general management educational are best suited for management, the health industry may have to take a stronger role in stipulating what management skills are needed for a service delivery organization. The industry can no longer afford to have leaders making critical decisions on costly services and resources who may not have the right management skills or even an understanding of the health industry. Information in chapter four found that secondary educational opportunities available to health-care managers often do not have a strong health industry focus. This perhaps was the reason why the United Kingdom planned to introduce a public corporate university model for



the health industry in order to address this shortfall. A public corporate university model may not be advantageous for British Columbia but an educational thrust with a strong health industry focus is essential. Whatever the goal the industry needs to take an active role in letting educational providers know what management skills are essential for their future leaders. Similar concerns were provided by senior health-care leaders as follows:

Some MBAs do not have sufficient understanding of the health industry.

A management degree or management courses should be considered. The best programs are just-in-time learning as it addresses current problems and managers can apply this learning to an immediate situation.

One survey respondent presented a very interesting point of view on management education.

If I complete a Masters in Business Management degree will I be a better nursing unit manager even if I do not have a degree in nursing as my first degree/diploma? Should all unit managers need a health degree/diploma as a start?

This is a good question. Is there any precedent in thinking that clinical units might be managed by individuals without a clinical background. Similar discussions occurred in the 1970s in Canada to the point of thinking the department of nursing (later called Patient Care) might be managed by someone other than a nurse. While the registered nursing associations challenged and prevented this from occurring, the idea has not entirely been dismissed.

For many frontline health-care managers the question is not whether to take management courses, the issue is the uncertainty of what skills they should be pursuing as the health organizations continue to have difficulties in identifying the skills needed. 40.6% of respondents indicated that competencies were not clearly defined by their organization. This thought is also reflected in the comments of survey respondents:

I am not sure [health] organizations have a good way to standardize and make sure all managers have good skill sets.

There should be a clearly defined and articulated organizational philosophy regarding management and leadership, and courses should be aligned with and support this philosophy.

The need for ongoing learning needs assessments was considered in the planning for the NHSU in which a 'Learning Needs Observatory' was envisioned to:

.....standardize a wide range of existing information on learning needs in a way which keeps pace with changing requirements(2003:25)

The health industry in British Columbia needs a similar idea to identify the learning needs of managers as changes occur within their organizations, a tool which is not currently available. Skill needs of health-care managers need to be regularly assessed to assure that the learning needs of its managers operating in a constantly shifting working environment are being met.

Thus, while the health industry currently stipulates undergraduate and/or postgraduate qualifications for their management positions, this may be inadequate in meeting the demands of today's modern complex service industry. In the past the health industry felt assured that by promoting highly qualified clinical and/or technical individuals into senior management positions the health organization would be well run. However, health reform has introduced the idea of hiring leaders from other industries with no previous health industry experience, a factor which has raised questions about health industry knowledge and management skills of some managers. The industry needs to become more involved in stipulating the skills needs for its leaders. As managers with clinical/technical education see their promotional opportunities diminishing, the policy of hiring leaders from other industries has created a growing division within the management ranks which needs to be addressed.

#### **7.2.4 The clinical/non-clinical issue**

*Conclusion #4: Health-care managers recognize that a clinical/technical background may no longer be adequate for a management position in the health industry.*

The findings show that 78.1% of managers with nursing education are at the program management level, 18.0% are at the regional management level and 3.9% at the executive level. Those with health-related education show a similar pattern of 83.1%, 12.4% and 4.5% respectively. While senior health-care managers insist management education is not a factor in their selection of health-care managers, the growing practice within the health authorities presents a different picture. One senior health-care manager admitted that:

Fewer clinical professionals are being promoted into management.

The reason for this shift was clearly stipulated by other senior health-care managers as follows:

There is not enough business perspective ...too many managers are nurses with health care degrees and limited business savvy which is imperative today.

Where a clinical background is not a pre-requisite we seek individuals with greater management and leadership skills. In areas where financial skills are needed this is a priority.

The argument for increased management diversity and the new corporate structure were presented in defense of this practice. Some frontline managers were partially supportive of this policy as noted by one survey respondent:

In health care if you have a strong clinical background you need some business and financial education. If you do not have a strong clinical background it needs to be well developed and unfortunately some folks have not done this and the best decisions are not always made.

One senior health-care manager openly questioned the policy of hiring managers without practical health industry experience by proposing that these managers may need a health management degree, specific health management courses or even an internship in health management prior to their appointment. He felt this should be a basic requirement to assure the health organization the candidate is capable of dealing with the responsibilities and complexities of a management position. Another senior health-care manager insisted that it was time to ‘raise the bar’ when hiring health-care managers. One senior manager stated that unless this knowledge/experience gap within the management ranks was soon rectified there would be long-term problems for the industry. The current ramifications of this hiring practice has not only created a growing divide among the management levels, it has created a communication problem as managers with different backgrounds try to manage a twenty-four hour, seven-days-a week, complex and changing service industry. To date, the need to harmonize the knowledge and skills of the non-clinical and clinical managers has not become a priority. Another senior health-care manager, showing a deeper awareness of the ramifications of the situation, expressed the following comment:

Frontline managers have the toughest job in the industry. While it is essential for senior health-care managers to have line management experience, with larger organizations this is becoming more difficult...While senior management may be expert in certain areas they are not comfortable nor do they have the know-how to manage a frontline position. There is even consideration that senior managers may need to have frontline management experience if positions are to be filled.

This diversity has complicated the challenge for management education. The data in chapter six shows there is a differences in learning needs as rated by those with different educational backgrounds. Those with clinical education are seeking more financial and statistical training while those with business education are looking for quality assurance and evidence-based management training. With limited educational funding will the industry be able to address these different needs? However, this difference in managerial background may favour an educational strategy with more tailored learning. Such a tailored strategy might

offer managers without health industry experience learning options with greater emphasis on the health industry, while managers with health clinical/technical education would be offered a more business/corporate option. Internships might be designed to enhance the skills needed by either group. In time, through such tailored educational opportunities, the industry might be able to unify the skills of both groups. This is assuming that the corporate model remains firmly in place in the years ahead which is unclear according to some senior health-care managers.

Thus, health-care managers currently bring to the industry a variety of undergraduate and postgraduate qualifications, with a growing divide occurring between the senior and frontline managers due to the hiring policies of health organizations. It is essential that the industry have some means of harmonizing the skills of its managers. To achieve this the industry will have to be clear on what skills are essential and plan tailored learning initiatives to meet the differing learning needs of its leaders. Diversity in background knowledge and skills can benefit the industry as long as the industry creates an education strategy to unify and enhance these skills. The question which now arises is whether the learning environment of the industry is ready for this change.

### **7.2.5 A changing learning environment**

*Conclusion #5: Health-care managers are cognizant of the changes which are occurring in their learning environment.*

The need for a learning environment, first identified in chapter four, was noted by one survey respondent as follows:

An adaptive learning environment is necessary to support just-in-time educational/training to meet the needs of managers within a rapidly changing health care environment.

Whether the health industry can be described as a learning environment after years of health reform is open to question; many managers would likely describe it more as one of survival. Chapter six showed that health-care managers are aware that health reform has affected their learning environment with data provided on a number of points. The findings in chapter six show that 85.4% of health-care managers believe lifelong learning has become a necessity in coping with change. This awareness is also reflected in the following survey respondent comments:

To manage for success, managers must commit to 'Life Long Learning' and adapting to and managing change.

I do believe that learning is a life long experience, it is the only means to maintain your competencies and keep up-to-date to the changes that are positive.

The findings in chapter six show that 92.9 % of health-care managers feel they are now personally responsible for their own learning, a shift from the traditional pattern where the health organization provided most education. Those with this view were mainly females (72.7%), over fifty-one years of age (45.1%) working in an urban location (94.8%) and with no degree (96%) or postgraduate (95%) education. This personal responsibility was also reflected in the comment of one survey respondent:

Managers should take responsibility for their own education. The employer should assist them in identifying areas that need improvement and have some in-services/workshops that teach how to deal with situations for the front line [management]level.

Health reform was also responsible for skills being outdated. 82.6% percent of survey respondents indicate their skills are outdated due to health reform, a view held mainly by females (73.9%), those over forty-one years of age (84.9%), those working in urban locations (95%) and those with undergraduate (80%) and postgraduate (84%) education. 81.5% indicated new skills are needed quickly. This situation was supported in the following observation of one survey respondent:

Change has made what I learned out-of-date or of no use.

Increased complexity of the working environment due to health reform had also created a more difficult learning environment. 73.5% of health-care managers held this view, mainly females (71.2%) , those over fifty-one years of age (43.6%), those working in an urban location and those with undergraduate (72%) and postgraduate (75%) education. Senior health-care management comments also recognized the growing relationship between increased workloads and a lack of time for learning for many managers.

Awareness of the changes to their learning environment due to health reform may be the reason why health-care managers have become more critical of the quality of learning currently available to them. The intent of the survey question on health management education was to solicit the personal perspective of health-care managers on their current learning options. 42% of the additional comments provided by survey respondents focused on the problems of current management education. Respondent views have been collated into four categories: course content did not meet learner needs, course content not relevant or practical, unable to apply the knowledge and skills learned, and no testing of learned skills.

*Course content did not meet learner needs.* Survey respondents found that the course content was too complex to use in the health workplace, too brief, delivered in isolation, too much was presented in a short period, or the material was already known. One respondent thought:

Short segmented education may be easier to do and learn  
than longer courses which engulf everything.

This comment would seem to support the short learning modules preferred by adult learners which were identified in chapter four. Small units of learning were also envisioned for the NHSU, learning which could be completed in short steps. These short educational options were to be complimented by more extensive programs of longer duration from entry-level programs to full degree programs (2003:33). A similar consideration may be helpful for health-care managers in British Columbia whereby they could access learning on an ‘as needed’ basis.

Respondents also noted that the course content of some management courses did not address the knowledge level of the learner, the classroom format did not address the experiential learning style of the learner, or there was too little interaction in the learning (i.e. as stated by one respondent, “too much sitting and listening”).

*Course content not relevant or practical.* Survey respondents found that courses had no application in health care, were not realistic, were too theoretical, too ‘touchy feely’ or too idealistic, had no public sector orientation, were the ‘flavour of the month’ or were not sensitive to the fact that health-care managers work long hours in a complex environment. Two health-care managers were more emphatic in their assessment;

In my experience very generalized management courses have insufficient relevance to managing a large nursing department. Most nursing managers, manage far too many people in three separate unions that cover an operation 24/7.

Managers in health care work long hours in a complex environment. We are also urged to take care of ourselves and not allow work to become our whole lives. Educational opportunities need to be sensitive to these competing messages/realities.

This need for practical relevancy of the educational offering to the health industry was also mentioned in chapter four and is supported by the following survey respondent comments:

I find that courses are not related to the day-to-day operations of a health organization.

If courses are too private system oriented then they are less helpful in public sector application.

Postgraduate courses within a Master's program were not health care specific.

As observed by one survey respondent, another issue is that course content is often not adaptable to small rural or remote facilities:

Basically, there is no education for those not working in large centers. It is less available to rural managers and less specific to small facilities. When you do go to the urban educational sites 'We don't speak the same language'.

*Unable to apply the knowledge and skills learned.* The respondents stated they did not have time to implement change, peers and upper management did not support them in the implementation of change and/or there was infrequent use of the skill, so the knowledge was lost. This view was also expressed in the following comments:

I need the opportunity to implement and use the training, otherwise my skills are not maintained.

The opportunity to apply the skills learned has been lacking.

*No testing of learned skills.* Survey respondents also noted that testing of such skills was not part of the educational outcome. One respondent referred to this in the following comment:

Current healthcare education in the form of in-service, workshops, and seminars lacks skill testing for effective learned outcomes (i.e. self tests, exams, instructor feedback).

More detailed comments of current management education may be found in Appendix J.

Thus, health-care managers are aware of the many changes to their learning environment created by health reform and have become increasingly critical of current management educational opportunities which are not meeting their learning needs. The issues raised indicate that health-care managers feel that the learning being provided is not tailored to the adult learner or learning style of the learner nor suited to the health industry or the manager's specialty, and does not produce work-ready skills. Individuals with minimal time for learning are less receptive to wasting their time on learning which does not give them practical skills to cope with a complex working environment. The lack of involvement of health-care managers into much of their learning was evident in discussions with health authority educators. How much is involved in higher education is uncertain. The NHSU plan was to involve health-care managers in curriculum development (2003:41), a feature which should be incorporated in British Columbia. The dilemma for health-care managers and education providers is to design a learning strategy that is resilient enough to adapt to shifting learning demands. As the industry's need for well-trained managers continues to grow the industry will be forced to

reassess their management education strategy. One of the first steps in such planning will be to understand what new skills health-care managers need in their newly reformed working environment.

### **7.3 The need for new management skills**

All four datasets show that the skill needs of health-care managers have changed because of health reform with the majority of managers obtaining their skills through short-term organizational training sessions. The question is whether this training is adequate in light of the new management challenges created by health reform, and whether new learning options need to be examined. In this section this shift in learning will be reviewed under the following three topics: competency learning for health-care managers, short-term learning priorities, and are managers trained for change?.

#### **7.3.1 Competency learning for health-care managers**

*Conclusion #6: Health-care managers are becoming aware that they may not have sufficient competency training for their new responsibilities.*

Identifying the management competencies of an organization that keeps changing is difficult, a point already noted in chapter three. However, in chapter four, one reason why competency lists continue to be used is to facilitate dialogue for educational planning. This is the very reason a short competency list was used in this study. The purpose was to aid discussions on what competencies health-care managers needed after years of health reform. In chapter six, using a list of fourteen competencies, survey respondents provided information on where they had acquired their training, how they rated themselves on this list of competencies and their short-term learning priorities. The fourteen competencies used in the survey were:

- Evidence-based management (EV),
- Use of statistics (STAT),
- Communications and information technology use (COMMS),
- Governance and policy development (GOV),
- Leadership skills(LEAD)
- Conflict management (CM),
- Change and complexity (CC),
- Evaluating management plans (EMP),
- Environmental and risk management (ERM),
- Quality improvement (QI),
- Human resource management(HRM),



- Financial analysis(FA),
- Project management (PM), and
- Contract management(Contract).

The findings in chapter six show that twenty-nine percent of health-care managers have had no training in the fourteen competencies and fifty-seven percent received their training through in-service, workshops and/or seminars. In other words, the majority of competency training for health-care managers is being provided through short-term learning opportunities. Consistent with the educational opportunities described in chapter four, health-care managers are receiving training mainly in change and complexity and such people skills as leadership, conflict management, human resource management and communications. In ranking their competencies, health-care managers ranked themselves high in the same skills where they are currently receiving some training and low in skills where training is less. In other words, they ranked themselves high in leadership skills, change and complexity, conflict management, human resource management and communications. Quality Insurance, project management and financial analysis were ranked in the mid-range showing that there is some training in these skills. The rest of the competencies were ranked low with contract management identified as the skill where there is the least amount of training. A similar skill pattern occurred with regard to gender, age, and education with slight differences such as males and those under forty rated themselves higher in financial skills, and those with undergraduate and postgraduate education rated themselves higher than those with no degree in all skill areas. The data also shows that those who already had some competency training were more likely to seek further training.

Thirty percent of the comments from senior health-care managers focused on management skills identifying similar but a slightly different set of skills. As seen from their perspective health-care managers need the following competencies: negotiating skills, financial management skills, implementation of management plans skills, the ability to work smarter, the ability to work in a public/private environment, the ability to create a seamless health service, the ability to manage regional strategies, being good at relationship building, increased confidence in implementing regional best practices, and the ability to integrate service planning with community groups. People and change and complexity skills were regarded as essential skills along with planning and financial skills in dealing with corporate issues following health reform. Capturing these views the following comments were provided by senior health-care managers:

Health reform has introduced multiple stakeholders, and managers need to be able to deal with multiple levels and groups of people who can derail any initiative the organizations tries to do.

The most needed management skills are: communications, project management, people skills (team building), strategic planning, working with personnel , being able to work smarter and having a resiliency to change.

In addition to the fourteen competencies used in the survey instrument, respondents were asked to identify additional competencies important in their current management activities. These additional competencies have been collated in Health-care Management Learning Needs list found in Appendix H. Four general categories emerged in this listing of additional competencies such as: people skills, business and customer service skills, planning skills, and general skills.

As noted in chapters three and four, competency lists are not a static entity but change frequently especially in organizations with ongoing restructuring. Also generic management competency lists created for an entire organization lack the specificity to help individual managers in identifying their personal learning needs. If more tailored learning is to be considered then the industry will need to consider using technology to help managers quickly identify their learning needs to create a learning plan. Such tools exist in other industries, the health industry will need to create one of its own. First, health organizations may have to identify the competencies needed for specific management positions. But addressing such competency training, particularly if it means more tailored learning, presents a challenge to traditional educators. Discussions with health industry educators show that while they acknowledged more management skill training was needed, in their view, the current teaching schedule could not be changed. Senior health managers and industry stakeholders also supported the need for more skill training, possibly through e-learning, but did not know how this could be accomplished and seemed hesitant in allocating more resources to management education. The dilemma facing the health industry is how to set up a method of being able to quickly identify the learning needs of its leaders without wasting excessive time and/or resources. In addition, the instrument chosen needs to be adaptable to a changing working environment. Technology is the answer but the tool must be designed for the health industry.

What does all this mean for an educational strategy for health-care managers? It means that a single management competency training plan will not address the diversity of competencies needed. Competency training options will need to be tailored to meet differences in prior training, gender, age, working location and educational backgrounds, factors which are not

currently addressed in the educational opportunities available to health-care managers. For the health industry this will require not only increased resources but leadership to accept the need for such tailored learning. As an aid to such planning, it may be helpful to analyze a prioritized listing of competency learning needs provided by survey respondents, for this list presents another view of the learning needs.

### **7.3.2 Short-term learning priorities**

*Conclusion #7: Health-care managers' selection of short-term competency learning needs reflects their awareness of their changing working environment*

While the findings in chapter six provided one pattern to the competency learning needs of health-care managers, when survey respondents were asked to prioritize their learning needs in the next twenty-four months, they provided a different list. This prioritized list of learning needs, from the most to the least training, is as follows:

1. Evidence-based management (*most needed learning*)
2. Change and complexity
3. Financial analysis
4. Project management
5. Evaluating management plans
6. Quality improvement
7. Leadership skills
8. Conflict management
9. Communications and Information Technology use
10. Governance and policy development
11. Contract management
12. Human resource management
13. Use of statistics
14. Environment and risk management (*least needed learning*)

This list shows evidence-based management, change and complexity and financial analysis as the top three immediate skill training needs according to health-care managers. With regard to the first and third competency learning needs, evidence-based management and financial analysis, there is some consistency with the findings in chapter six. The second learning need, change and complexity, is an anomaly and will be addressed in the next section.

In evidence-based management the findings show that thirty-seven percent of respondents had no training and fifty-one percent had in-service/workshop training and rated themselves at 3.04 (i.e. a mid-range) in this skill. Those with no degree or neither a clinical or business degree rated themselves lower in this skill. Those with some previous training in this skill identified this as a greater learning need than those with no training, 62.0% to 38.0% respectively. Males and those with undergraduate/postgraduate education rated themselves higher in planning skills (i.e. which included evidence-based management) compared to others. It is not surprising then to find that more females and those over 46 years of age selected this as their learning priority.

The selection of evidence-based management as the number one learning priority was not a surprise to health industry stakeholders. One stakeholder felt that it was likely due to the increased emphasis on evidence-based clinical decision-making, while others suggested it was due to increased accountability and more business strategies in the health industry. The need for greater evidence-based decision-making was also noted in the May 2000 CCHSE survey of Canadian Chief Executive Officers which found that in the health industry:

.....there is more rigorous prioritization and greater use of an evidence-based approach to decision making (Armstrong, Brunelle et al. 2000:9).

Survey respondents provided additional comments on the need for greater evidence in management decision-making, as follows:

Change is happening with greater frequency and needs to be supported with evidence.

Managers require better tools to make evidence-based decisions. Such tools as outcome data, infrastructure support are not easily accessible to front-line managers.

We lack the basic information to support evidence-based management.

With regard to financial analysis the findings show that thirty-three percent of respondents had no training and fifty percent had in-service/workshop training in financial analysis and rated themselves at 3.11 (i.e. mid-range) in this skill. Those with no degree, one clinical degree or neither a clinical or business degree rated themselves lower in this skill. Those with some previous training in this skill identified this as a greater learning need than those with no training, 66.6 % to 33.4 % respectively. As noted in 7.3.1, males, those under forty years of age and those with undergraduate/ postgraduate education rated their financial skills higher than others.

Financial analysis, as the third learning priority was supported by industry stakeholders on the basis that cost savings and limited resources continue to dominate health industry management activities. Senior health-care managers supported this learning need and added the following comments:

There is a basic need for greater financial management skills.  
A health-care manager is really disabled if he/she does not have this skill.

There is already \$100 million spent in private contracts in the health authority and this could rise to \$200 million. Health-care managers are not versed in dealing with contracts.

Survey respondents were equally aware of the need for more financial capabilities as evident in the following comments:

We need to have a degree in finance to completely understand management strategies in health care today. Not enough financial training for nurse managers is a huge problem.

More fiscal skills are necessary.

Need to be more cost effective to provide best practice.

Thus, the selection of the first and third competency learning needs appeared to be consistent with the data in the study, with these learning needs being chosen mainly by females in the older age groups with a particular educational background. For health management educational planners this variation in learning needs again supports the need for more tailored learning options for health-care managers. The challenge for educational curriculum designers will be how to create learning units that can adapt to different learning needs and stay up-to-date with changing organizational needs. The remaining question is why health-care managers chose change and complexity as their second learning priority, an apparent anomaly to the findings in chapter six.

### **7.3.3 Are managers trained for change?**

*Conclusion #8: Health-care managers realize they may need more training in organizational change and complexity*

For the past thirteen years, health reform has introduced considerable change throughout the health industry in British Columbia. For most health-care managers three rounds of restructuring has concentrated their energies on adapting to workplace and services shifts. Chapter four showed that mandatory health authority management educational programs, when available, focused on such topics as: financial savings, facility and service restructuring,

human resources and coping skills, expected topics at a time of major organizational change. However, in chapter four it was also pointed out that educational opportunities vary among the health authorities. A large number of health-care managers have limited learning opportunities and increasing difficulties in attending classroom delivered learning. While some form of change and complexity training apparently exists, for many health-care managers it is not enough.

The findings in chapter six show that only fifteen percent of respondents have no training in change and complexity with sixty-one percent receiving such training through in-service/workshops. On average respondents rate themselves high in this skill at 3.81. There was consistency in this high rating pattern by gender, age, and education. Those with both clinical and business education rated themselves higher (4.17) compared to those with one business degree (3.97), those with neither clinical or business education (3.78), those with one clinical degree (3.73) and those with no degree (3.64). Those with previous training in this skill rated this as a learning need over those with no training, 85% to 15.1% respectively. The question remains then as to why survey respondents identified this as their second learning priority.

Interviews with health authority representatives and senior health-care managers confirmed the existence of change and complexity courses but admitted the focus of such learning was on coping skills with little emphasis on practical management skills such as: how to provide quality health services in a constantly changing industry, how to plan and implement change over a large geographic area, how to manage with ongoing reduction in resources (i.e. how to do more with less), how to effectively work with community groups in planning and changing health services, or how to design health services for individual customer needs. Similar views were reflected in some of the senior health-care managers comments, as follows:

Managers need to be able to effect change and how to deliver health care differently. A lifetime job is no longer possible.

Managers need to understand the complexity of the organization. They also need to understand finances as it relates to their budget, systems thinking and how to use statistics.

There is a need for managers to become more business-oriented and have a better understanding of people, all encompassed within the ever-present climate of change and stress.

One senior health industry stakeholder was surprised that complexity did not receive more emphasis by survey respondents as this was becoming a major issue in the industry. In higher education, change management topics are found as part of a course, but whether such change material provides learners with practical management skills is not evident in the course descriptions.

Health industry stakeholders felt that the selection of this competency as the second learning priority reflected the ongoing uncertainties in the industry as rumors of more change circulate. This ongoing uncertainty is reflected in the comments by survey respondents as follows:

Management in these days requires the ability to multi-task and respond to the ever-changing needs of the industry in very tight time frames. Everything is quick and dirty.

Broader range of expertise is needed –such as the need to be an accountant, lawyer, helpdesk, counselor, secretary, mediator.

Ability to know more, to be adaptive, operate without the full picture, less micro management – all of which require educational courses that acknowledge this new dynamic.

The selection of this topic as one of the top three learning needs may reflect the uneasiness of health-care managers knowing that health reform is to continue and/or it may point to a need for more practical management skills in addition to coping skills. What is clear is that this remains an important competency for health-care managers irrespective of the amount of training resources which have already been expended.

For the health industry this data suggests there may be a need to reassess the underlying needs of managers with regard to change and complexity and whether other aspects need to be addressed in the curriculum. Another issue with regard to change and complexity training is the timing between the introduction of change and training. This was noted in the 2000 CCHSE study of Chief Executive Officers in the following statement:

The most common reason cited for lack of preparation was either that the particular trend was not contemplated at the time training took place or that the magnitude of the change was unanticipated (Armstrong, Brunelle et al. 2000:4)

With change occurring at so many levels within the health industry, timing may be a key factor in getting educational material to industry leaders for it to be relevant or effective. Further research is needed to fully understand how change affects management decision-making, and how to get training to industry leaders at an appropriate time. This may have

been the thinking of the NHSU planners in having learning services directly linked to “improved working practices, underpinning new roles and implementing new ways of working”. Senge also envisioned greater frontline managers involvement in research, something that is rather limited in the current environment (2003:12), (Senge,1999:433). These may be ideas which the health industry of British Columbia needs to explore in their efforts to improve the learning environment of health-care managers. Increased study is needed to determine the most effective change and complexity learning methods as this will continue to be a key topic for years to come.

Thus, the material in this section shows that the competency learning needs of health-care managers are not conducive to a single learning model but will require greater choice of learning. Differences in competency learning varies by gender, age, educational background and, as shown in chapter three and four, such need vary as the organization changes. Whatever learning strategy is chosen for British Columbia, it will need to incorporate technology to quickly identify the management learning needs of individual managers as the organization changes. A plan is also needed to help managers choose from a variety of competency learning paths designed to address prior training, learning style, and other factors of the learner. Learning technologies would seem to be the obvious choice in enabling the industry to accommodate these new learning challenges. These will be addressed in the next chapter. Having identified some of the learning needs of health-care managers, the next step is to understand why health-care managers are having difficulties in achieving their learning goals.

## **7.4 Learning challenges**

Learning challenges were introduced in chapter four and will now be reexamined in light of the data obtained in this study. Thirty percent of comments from survey respondents focused on barriers to learning. Study participants were very clear in their comments on the barriers affecting their abilities to pursue additional learning. The four which will be examined in this section are: lack of time for learning, the need for organizational support, the need for different funding options and more credit for experience and learning. Technical skills as a learning barrier will be addressed in chapter eight.

### **7.4.1 Lack of time for learning**

Conclusion #9: A lack of time may present a barrier for health-care managers in pursuing additional learning

As described in chapter three, increased workload, lack of time and too much stress have



become a part of the working life of many managers in restructured organizations. 73.5% of survey respondents indicated they have a difficult working environment with 60.5% indicating that such an environment makes learning difficult. Like other industries, the health industry has experienced a decrease in the quantity of managers at the same time as service demands are increasing. Thus, it is not surprising that health-care managers identify increased workload and a lack of time as primary barriers in achieving their learning goals. Survey respondents had the following comments on workload:

Extensive role demands require working extended hours which limits the ability to participate in additional study.

Before education can really move forward, a stable work environment must be in place. Eventually, employees at every level can no longer stand the constant cutting and slashing. Thinking about education means you have hope, in an environment without hope, it is hard to motivate yourself. Also there is no upward mobility in the health care system and it is paramount that you remain a clinician first and a manager second.

In order to have the time and opportunity to learn, the workload must be addressed. This could easily be done by having secretarial and time-keeping support (as well as clinical support depending on your portfolio). I am not convinced that smaller portfolios are the answer but I do believe that it is necessary to free up time for managers.

Survey respondents and senior managers kept reiterating that until there is a more stable working environment or reduced workloads the motivation to pursue education was simply not going to happen for many managers. Considering the amount of change anticipated in the health industry in British Columbia (refer to 7.2.2), a stable working environment will not likely occur in the near future. In order to address these issues health-care managers will need to become more resilient in dealing with change seeking to delete outdated management practices and/or introduce new methods and technologies to streamline their activities. Followed closely with workload, is a stated lack of time for study, another major issue for some survey respondents as follows:

Hours of work and responsibility have increased! Time off is extremely important otherwise I can't keep up with work. This leaves little/no time for formal education which I find quite disappointing, but I can't keep up the pace of work and study.

It is very difficult to find, to make or to justify the time to attend educational events. This is very often because of the constant demands and/or priorities on a manager's time, the

reduction in support staff (clerical/administrative) and management staff (greater span of control/less support staff).

Time off to study is a critical necessity that is not recognized by health care organizations [health authorities].

Whether the traditional measures of time off for study and/or being able to study at work can be achieved in the current working environment is uncertain. As noted in chapter three, this workload/time issue has many dimensions which will require much study. Although a lack of time for study was identified by a number of survey respondents, there is some evidence that this is not entirely the case. The findings in chapter six show that 66.4 % of managers have attended some management education training in the last twelve months, with the majority of those having some undergraduate education. 96.9% have attended some management education training in the last two or more years with the majority of that group having both undergraduate and postgraduate education. Only 30.9% of those with nursing education have had management training. Thus, those with some prior education are most likely to have had some management training. Given that many of these management courses may have been mandatory, it still indicates that time was found for such learning, admittedly less for those with nursing education. The lack of time for learning may therefore reflect the earlier critical views of some survey respondents with regard to the value, convenience, and the quality of such learning. It may also reflect a need for something different in the learning experience, content or outcome which has yet to be determined.

Interviews with senior health-care managers presented a mixed perspective on how workload and stress were affecting their managers. One interviewee thought that coping skills were individualistic and, as such, some managers coped better than others. Other senior managers felt that most managers seemed to be coping but they were concerned as to the amount of sustained stress managers could withstand. It is this sustained stress combined with the need for ongoing skill training which needs to be addressed. Industry stakeholders supported the view that workload and a lack of time for study were major barriers to learning. Since both issues, workload and a lack of time for learning, remain stumbling blocks to learning, the health industry may need to take a more in-depth look at these issues if they are to achieve the skill training needed for managers. Improving the working environment of health-care managers is critical. Also bringing more learning into the worksite may work if delivered in small enough units to accommodate the apparent time restrictions of managers. While e-learning may address some of these issues, perhaps the underlying barrier to learning has more to do with a lack of organizational support than a lack of time.

## 7.4.2 Need for more organizational support for learning

Conclusion #10: Some health-care managers believe more organizational support is needed if they are to pursue additional learning.

As shown in chapter four, organizational support for learning has a number of features. Support may include verbal recognition for the learner's extra effort in assuming additional responsibilities for learning, or it may also involve the expenditure of providing tutors and/or technical support for learners. The degree of organizational support sends a clear message to the learner that education is valued and both the organization and the individual share in the benefits. However, the organizational message health-care managers are receiving does not seem to foster this positive view.

Survey respondents indicated that there is still need for greater support from senior leaders for education. 40.6 % of survey respondents indicated that competencies were not clearly defined in their organization. Respondents also noted an ongoing lack of praise for their educational pursuits, some stated senior managers often did not know the content of training programs and some fostered a negative view towards the time taken for such learning. In the opinion of survey respondents:

Education is seen as a frill rather than a necessity, and yet one is expected to have many new competencies quickly.

Senior executives need to fully support the education of managers in their organizations. Although clinical training is essential to remain current and to provide excellence in care, managers require additional training in this constantly changing climate.

I do not feel higher education is always supported by the organization.

The difficulties in pursuing learning opportunities for health-care managers in rural settings is commented upon by one survey respondent:

Education is difficult to obtain in rural settings especially in small hospitals with limited budgets and no relief to cover while away on courses, especially with 24 hour 'on call'.

The need for more resources was identified by another survey respondent:

As there is need for lifelong learning, organizations need to commit more support, financial and otherwise to make learning easier and more accessible for managers.

One senior health-care manager felt their organization saw management education as a one-time process which challenged any discussion with regard to ongoing skill training. Such mixed messages have prevented many managers from pursuing additional education, as in many cases it presents a personal cost commitment for which there may be no career advantage. Health organizations need to make it clear to managers what skills are imperative for their new roles and that they have the full support of the organization in pursuing such education.

Currently, health authorities do not provide any formal educational support in the form of tutors. For many managers, whatever learning information they receive is provided by colleagues or obtained on an ad hoc basis through an outside educational provider. As noted in chapter four, technical support for education is not available through the health organizations and is often limited in higher education institutions. Greater technical assistance is needed if managers wish to consider more learning technologies in their educational pursuits. Technical access and support will be discussed further in the next chapter. The latest trend in requesting increased coaching and mentoring by health-care managers may reflect this feeling of a lack of support in the organization and/or highlight the under-management of the industry which was identified in chapter three. Further discussion on support measures for health-care managers will be presented in chapter eight.

With the lack of verbal support, limited orientation and a shortage of managers to provide advice, many health-care managers feel they are being dropped into complex management roles in which former skills are obsolete and the learning of new skills is restricted by organizational issues and a lack of learning opportunities. 82.6% of respondents indicated their skills were outdated. As mentioned in chapter four, executive management support for management education differs among the health authorities.

Perhaps the health industry in British Columbia can look at what measures were contemplated by the NHSU to support learners. The support measures considered in the planning were: a telephone link, a website, an e-mail service, face-to-face support at workplaces and through local learning centers, career advice, information and advice on courses, study skills advice, learning support, information and advice on work-related matters, mentoring, expert tutoring and guidance on progression (2003:18,57). The lack of consistency in the learning support for health-care managers is a key issue in British Columbia, with each health authority going its own way. Whether this means the province would benefit in having a separate health leadership education strategy is still unclear, but there would be definite benefits in having a consistent plan for all health-care managers.

Health-care managers want equity in education, and consistency in the type of learning options available to them. If the province was to establish a single management education strategy managed through each Health Authority, it would require strong leadership to achieve the cooperation and coordination necessary for an effective plan. Both internal and external partnerships would be needed. The biggest issue will be what financial resources will be allocated for such education as this remains a key issue for some survey respondents.

### **7.4.3 Need for different funding options**

*Conclusion #11: Health-care managers want more equitable funding policies and support measures if they are to pursue additional learning*

Chapter four showed that health management education funding varies by health authority and is focused mainly on senior managers which leaves many health-care managers facing a personal financial outlay for their professional development. While some managers may be able to afford such financial costs, this may not be an option for others. As shown in chapter four, health authorities with the greatest population (usually in the southern part of the province) have larger funding envelopes than those in less populated areas, and demonstrate this in their funding support to senior management education. While 92.9% of respondents recognize the increased personal responsibility for their learning, the current situation with some managers getting financial assistance and others not, has created an equity issue. Some survey respondents had definite views on this topic as noted in the following comments:

Funding for management education is selective and funnels everyone to do the same course or you get no funding. Encouragement for master's level of education does not exist in fact you are penalized for doing higher education like your master's.

Inconsistent policies regarding financial assistance for higher education. Some health authorities/organizations pay 50% or more toward a Master's degree – others pay little or nothing.

It is this inconsistency among the health authorities and within the health authority that needs to be addressed. Innovative funding options were proposed by other respondents:

More funding needs to be provided for scholarships. Interest free loans to managers taking approved graduate level courses is a necessity as executive style programs are expensive (approximately \$19,000 per course).

The organization should support managers more financially and with time to achieve graduate degrees and graduate certificates related to management and delivery of healthcare.

I would advocate that financial incentives be made available for the completion of an MBA or Master of Health Administration.

Above and beyond the need to provide learners with more funding options, health organizations need to be assured of a return-on-investment. Currently, health authorities are providing funding for postgraduate education for a number of managers without any assurance that the organization is benefiting from this expenditure. Cost benefit analyses need to be carried out so the health industry can be assured it is receiving value for the funding allocated for management education, especially when industry funding is limited.

For other respondents educational funding needs to be separated from operational funding and clearly designated for managers:

To support management education to benefit health care, there needs to be educational funding set aside that is not health authority managed so all staff have the ability to grow/learn regardless of how rich/poor our regions are.

Time and money should be submitted within a manager's budget to develop and carry out their learning needs.

Health organizations need to make it clear what is funded and what is the personal responsibility of the managers. This point was more clearly expressed in the NHSU planning. The NHSU planners felt it was important to indicate clearly what elements of the plan would be free to learners, funded out of core NHSU funding, and which would be paid for in part or wholly by employers or other government agency. Equitable rules and guidelines were to be established on the appropriate balance between learner entitlements and their own responsibilities (2003:26,97) In addition, the NHSU plans contemplated scholarships and access to a learning account (2003:11,46), ideas proposed by respondents in this study. Similar policies may need to be considered in British Columbia. Educational funding will have to be separated from operational budgets if there is any chance of success. Arguably the current policy of each health authority having its own management education strategy creates unnecessary duplication as well as a mixture of strategies. While a consolidated leadership educational strategy for the province would achieve a better use of limited resources, its realization would require dynamic leadership. Yet a unified plan would address the appearance of a lack of equity and provide more learning options for health-care managers.

Further study to identify the best funding options for British Columbia will be needed. If time and costs issues can be addressed, then access to higher education may be the next challenge.

#### **7.4.4 More academic credit for experience and other learning**

*Conclusion #12: Health-care managers want more credit for their professional experience and other learning.*

Chapter four highlighted the growing need for increased academic credit for on-the-job learning which has escalated with the arrival of a learning economy. As health reform accentuated the need for more credentials in competing for reduced management jobs, it also accentuated the need for more academic credit. The findings in this study show that 60.5% of respondents want more academic credit for their professional experience, this view being held by mainly females (71.5%), those over fifty-one years of age (49.5%), and those with both undergraduate and postgraduate education (42.6%). Survey respondents added the following comments to this issue of academic credit for experience:

Too much emphasis is based on degrees earned and not enough credit for experience.

Many of our managers, although they have participated and upgraded their skills in many ways do not receive enough recognition for their experience in the same way as is often reflected by the degree recognition. The degree does not replace the need for experience and this needs to be reflected in a bigger way.

To achieve more academic credit for professional experience one survey respondent recognized the need for some evaluation process, as follows:

If experience became an option for academic credit there would need to be a specific criteria for evaluation so that it is not twelve years of doing the same thing over and over rather than twelve years of new and different learning experiences.

Chapter four described how other jurisdictions have already begun to address the issue of credit for on-the-job training and, if important to the health industry, could provide valuable information on the topic. A basic part of the NHSU plan was to recognize prior learning and experience and to develop links to learning credit, awards and qualifications (2003:28)

With regard to other learning, 76.4% of respondents want more academic credit for such learning as i.e. in-service, workshops and seminars, this view being held by mainly females (73.7%), those over fifty-one years of age (45.7%) and those with both undergraduate and postgraduate education (46.3%). In addition, respondents want more learning opportunities towards a higher qualification, as follows:

I would like to see more courses offered that lead to a higher formal degree, often many courses taken but no recognition given.

Whatever credit system is adopted in evaluating other learning opportunities, the underlying test should be whether the individual can perform, as noted in the comment of one survey respondent:

Academic credit should be based on the skill demonstrated, not the type of course or experience.

The question remains as to what agency/organization will do such skill testing? Presumably the health industry would establish some means of judging the management skills of those graduating from any educational program. If such a system were to be activated, in time the health industry and educational providers would become adept at achieving the outcome skills needed for the industry.

While the majority of managers believe they should receive more academic credit for experience and other learning, this is not happening for many. Like the NHSU, British Columbia may need to establish clear guidelines for increased academic credit for health-care managers, especially for those willing to assume increased responsibility for their own learning. Further study may be needed to determine how best to address this issue. If higher educational credentials are essential for all health-care managers, then this issue of academic credit is important especially for older health-care managers. The biggest challenge facing the industry is how to facilitate access to higher management education for 17.7% of health-care managers with no undergraduate education and 48.5% with no postgraduate education, the vast number residing at the program level of management. If management skills are important for everyday service operations and/or advancement then the need for greater access to learning is far greater than those without undergraduate/postgraduate education. The health industry is facing a major educational challenge which can only accelerate in the years ahead.

Thus, this section has highlighted the challenges which are preventing health-care managers from achieving their learning goals, all challenges which could be addressed with increased planning, technology and increased funding. The current workload issues need to be streamlined to increase the learning time for managers. Small units of learning might enhance the abilities of frontline managers to access new skills, learning options which have yet to be created. A number of organizational support measures, equitable funding options, and increased academic credit will be needed to enhance the learning environment of health-care managers. Fundamental to such planning is the use of learning technologies, the focus of the next chapter.



## 7.5 Conclusion

The information in this chapter, the first of two analysis chapters, has shown that continued change is to be expected in the health industry in British Columbia, a prediction which provides little relief for health-care managers. Such change will continue to demand new skills with 82.6% of survey respondents stating their skills are outdated. To ascertain the skill training needs of health-care managers this study focused on fourteen competencies familiar to health-care managers. The findings show that management competency training has mainly focused on change and complexity and people skills with less attention given to planning and financial skills. The same pattern existed in their competency training and how respondents rated such skills. A consistency was evident by gender, age and undergraduate/postgraduate education. Most competency training was provided through in-service/workshops, with 29% of respondents having no training in any of the competencies used in this study. Health-care managers rated themselves higher in competencies in which they had received some training. A rating difference was found on whether the manager had no degree, or a clinical/ business education. While there was a pattern of rating change and complexity high and planning and finances lower, there were differences in competency need by gender, age, and education.

In addition, when survey respondents were asked to prioritize their competency learning needs in the next twenty-four months, they identified a different list. In this prioritized listing evidence-based management was the first priority, change and complexity the second and financial analysis the third. The findings in chapter six support the first and third priority, as both competencies have escalated in importance with the arrival of the corporate management structure and increased accountability due to health reform. The second priority, change and complexity was an anomaly, since the findings show that health-care managers are receiving such training and rate themselves high in this skill. Health industry stakeholders felt that this choice may reflect an underlying uneasiness with ongoing health reform and/or a need for more practical management skills. As competency learning needs continue to change, the findings in this study point to a list of competency learning needs at a point in time. To address ongoing change the health industry will need tools to quickly identify the learning needs of its managers so learning options can be designed to accommodate differences due to gender, age, working location, prior education and whether or not the individual has any prior knowledge of the health industry. A tailored learning option seems essential in meeting the ongoing skill needs and challenges of a diversified management group employed in an industry that keeps changing.

The findings show that health-care managers are aware of their new learning environment where learning has become a lifelong issue with increased personal responsibility, a shift from the past when the organization provided much of the learning. As such, health-care managers have become more concerned with increased academic credit for professional experience and other learning, especially females, over 51 years of age with undergraduate and postgraduate education. Increased workloads and limited time have also made health-care managers more critical of management education opportunities as they can ill-afford to waste time attending learning that provides few practical skills. The findings also show that the leading barriers to learning are a lack of time, the need for more organizational support, and more funding options. While study participants emphasized they had little time for learning 96.9% had attended some management training in recent years. The time issue may be more complex than simply workload, so an effort is needed to link learning and improved management activities, an idea already considered in the NHSU planning. Improved organizational support is imperative if organizational leaders are to pursue additional education. Such support may include such features as technological aids, tutors and/or mentors. For many health-care managers there is a need for increased equity in financial support which is not currently occurring. Consistency, equity and more innovation funding measures are proposed.

The management education challenge for the health industry is far greater than the obvious 17.7% of managers with no undergraduate education and the 48.5% who have no postgraduate education. Most of those needing additional training are at the program management level, whereas currently leadership training is concentrated at the senior management level. If the industry expects to recruit some of its future leaders from the program management level, then the education of these managers becomes critical. Recruitment and retention incentives should include education as a key component. The industry needs to clarify what basic education is required for its leaders and then spell out precisely what the organization is committed to pay. A multi-tiered educational strategy, from frontline mini-units of learning to graduate education, should be considered making sure that health-care managers have every opportunity to acquire practical, relevant management skills synchronized to the shifting needs of the health industry. In all this discussion there have been brief hints of the use of learning technologies to facilitate this learning strategy. This issue, of immense importance to this study, will be the focus of the next chapter.

## Chapter 8

### Analysis: E-learning

---

*We are in the early years of the 'digital decade' – an era in which computers move beyond being merely useful and become significant and an indispensable part of everyday life.*

*– Bill Gates*

#### 8.1 Introduction

This chapter, the second of two analysis chapters, will discuss the second theme of this study, focusing on e-learning as a potential approach in meeting the learning needs of health-care managers. Chapter seven showed that health-care managers require considerable skill training possibly in a tailored format. There is also evidence that managers face challenges in meeting their learning objectives. These challenges are compounded, as shown in chapter four, by the limitations of health management educational opportunities. An underlying concern is whether educational providers are able or willing to quickly adapt traditional educational opportunities and services to address the speed of change in the health industry. Perhaps the problem is that neither the health industry nor educational providers are fully aware of the depth of the learning shift which has occurred. Since the status of education in the health industry was reduced during the reform process, and regular competency assessments are not carried out for health-care managers, it may be argued that even the health industry itself is not up-to-date on the learning needs of its managers. Nevertheless, since health reform is expected to continue, it is critical that solutions be found to meet current and future skill training needs of health-care managers. .

Chapter four showed that e-learning for corporate leaders has been effective in other organizations since the mid-1990s and continues to be promoted by government and industry. This chapter will examine how receptive health-care managers are to e-learning, and how learning technologies may be utilized in the health industry for health-care managers. The uniqueness of learning with technology will also be examined as to its technological and pedagogical features, building of an e-learning inventory, and its quality and cost.

In this study e-learning is examined as to how it affects the whole process of acquiring and processing knowledge instead of viewing e-learning as just learning technology. Viewing e-learning as only technology is commonly found in the literature. The American Society of Training and Development (ASTD) describes e-learning as “instructional content or learning

experiences delivered or enabled by electronic technology” (2001:7). Stuart refers to electronic technology (i.e. digital video disks [DVDs], e-mail, and live chat) and adds that e-learning may happen synchronously (i.e. in real time) or asynchronously (Stuart 2004:1). Markanen views e-learning more from an Internet perspective and sees the Web, or WWW, as an Internet service that organizes information using hypermedia (Markanen 1999:10). The virtual aspect of e-learning is described by Dillenbourg as ranging from text-based interfaces to the more complex three-dimensional graphical output (Dillenbourg 2000:6). Fender feels that ‘virtuality’ is more a description of an approach to the delivery of education (Fender 1999:8). Middlehurst describes ‘borderless education’ (i.e. another term for e-learning) as the delivery of education that crosses conventional boundaries of time, space and geography (Middlehurst 2003:4). However, McKay sees e-learning not only as technology but as an aid to service and envisions a new “Information Age model of e-learning focused on just-in-time and personalized learning, and an environment where the learner or customer can conceptualize and construct his/her own knowledge”. He sees a learning process aimed at understanding the business of the learner, and at becoming an integrated component of a work process. It is McKay’s view which is supported in this study. According to McKay this new model would:

.....aim to enhance and provide information and training in a continuous mode, just-in-time out to the fleet and store, to the franchisee or to the customer, via wired and wireless networks. This like many other learning opportunities can be embedded in the workflow rather than delivered in the traditional ‘sheep-dip’ methods (McKay 2003:5).

This model is expected to eventually “supersede e-learning as the dual factors of increased mobility and the desire for truly personalized service increases at all stages of the supply chain”(McKay 2003:5). This shift is referred to as ‘mobile learning’, and according to Harris, is the “point at which mobile computing and e-learning intersect to produce an anytime, anywhere learning experience”(Harris 2001:1).

The main purpose of this chapter is to show that e-learning for health-care managers needs to be designed as an integrated learning network delivered through various learning technologies, with tailored learning to meet day-to-day management needs of frontline managers. The intent of this approach is to shorten the time between the learning event and its application. The analysis of e-learning in this chapter will incorporate e-learning quantitative data presented in chapter six along with qualitative data obtained in the survey, interviews and stakeholder discussions. Four sections were considered in developing this material: health industry’s familiarity with e-learning, the benefits of e-learning for health-care managers, learner and organizational challenges with

e-learning and, incorporating material from both chapters seven and eight, a proposal for a new health management educational strategy.

## **8.2 Health Industry's familiarity with e-learning**

This section will show that e-learning has already been adopted in another health industry and that a percentage of health care managers in British Columbia are already familiar with its advantages in meeting their learning needs. Evidence will also be presented that many health-care managers still prefer classroom (i.e. face-to-face) learning because of its social benefit at a time of organizational change. To accommodate differing learning needs a blended learning model will be considered for the health industry, a method also envisioned for the health industry in Britain. In examining how health-care managers view e-learning the following three sub-sections were considered: e-learning in the health industry, health-care managers already familiar with e-learning and the advantages and limitations of e-learning.

### **8.2.1 E-learning in the health industry**

Contrary to the views held by some large organizations, the literature shows that e-learning should not be the sole means of providing management training, a view also maintained by Minton as follows:

E-learning addresses only some of the development needs of the organization. Without a comprehensive approach to employee development, the organization remains lacking in important competency development (Minton 2000:2).

Thus, any e-learning strategy proposed for British Columbia will be one of a range of learning options, a viewpoint fundamental to the ideas which will be presented in this chapter. First, however, it may be helpful to know if an e-learning strategy has ever been considered for a health industry.

While an industry-wide e-learning strategy may be a new idea for the health industry of British Columbia, this thinking has been at the forefront of NHS learning strategies for some years. In chapter seven the NHSU overall management education principles were presented. In this chapter the NHSU e-learning strategy will be examined. Fryer's viewpoint in establishing an e-learning strategy for the NHS was that e-learning could be provided in a number of ways from pure e-learning to a blended format; blended within e-learning, between e-learning and with other forms of learning. E-learning was promoted for the health industry in Britain because it provided greater flexibility, and access to a wide range of up-to-date material and courseware including interactive learning. Fryer envisioned more tailored learning for NHS learners designed in bite-

sized chunks according to the learner's need. Learner support was to be in the form of remote tutors and experts. Links were to be established with a community of colleague learners, faculty and experts (Fryer 2003). Adopting such an e-learning strategy was viewed by NHS stakeholders as both challenging and requiring a sustained commitment. However, even with the risks these health industry stakeholders felt that:

....the achievement of the strategy does offer the potential to transform delivery of training and education in a way that could bring real benefits to staff, organizations and ultimately patients....it will reinforce both the purpose and value of new technologies as a key component in the achievement of modernized health care services. It is likely to stimulate interest in new applications of learning technologies which will increasingly be directed towards the meeting the needs of patients and their families.....This strategy offers a comprehensive approach to the development and utilisation of e-learning that will become both an essential and valuable approach in supporting delivery of education and training(2005:6).

The NHS decision in using e-learning was strengthened by the prior use of this method for medical and health professional education. Recognizing the similarities of learning needs for all health organizations, the e-learning strategy was endorsed as permitting:

.....a more flexible access to learning with a range of different resources, the enhancement of learning administration processes by the use of technology, the enablement of collaboration and communication by the creation of an environment for online communities, the integration of current disparate training systems into a single learning environment, and the provision of opportunities for organizations to work more collaboratively with each other to develop staff and manage their knowledge (2005:1).

Grantham saw the value of an e-learning environment as providing a context where planning the order of content, learning activities and assessment strategies have to be carefully thought out (Grantham 2004:4-6). Thus, there is precedent in considering an e-learning strategy for a health industry. Its implementation, however, will present new challenges to the industry.

In the implementation of an e-learning strategy, Minton identifies the first priority as the need for leadership support in every segment of the organization because as he sees it:

In the end, leaders will be responsible for helping employees embrace the changes in the organization: first through the development and use of performance incentives (change behavior), and later through the cultivation of buy-in and acceptance (sustain behavior)(Minton 2000:3).

This may be the first challenge of the e-learning proposal for British Columbia as such leadership may be missing according to a senior health-care manager, as follows:

There are no champions for e-learning at the senior management levels in the health authorities, and the Ministry of Health is ambivalent to the concept. Constant reorganization in the health authorities and in the Ministry makes finding champions difficult as health-care managers are facing too many other priorities.

This view may be changing in light of the current leadership crisis facing the industry. With ongoing change and anticipated leadership recruitment and retention problems, more learning options may have to be considered if the industry is to have the right leaders for the future.

The secondary priority identified by Minton is the creation of a change management plan to assess how the new learning design will be accepted (Minton 2000:4). The NHS incorporated a needs analysis at the initiation of their plan to “take into account the potential use of e-learning as a delivery methodology” (cited in 2003:9). My study on health-care managers in British Columbia has provided the health authorities with its first management education needs analysis and use of learning technologies. Minton also suggested that this change management e-learning plan should identify a minimum technological platform of necessary hardware, telecommunications capability, current browser versions, and software to support learning. (Minton 2000:5). Chapters two, three and four of this study identified some of the technology problems in the health industry of British Columbia. A senior information technology manager adds another perspective on the situation:

The information technology infrastructure in the health industry is often old with fourteen inch monitors, no sound cards and the information technology departments stretched in keeping up with demands. If learning technologies are to be used then the information technology personnel may need further training.

Technological challenges will be addressed in 8.4.1. What is being considered here is the basic features of an initial plan in establishing such an e-learning strategy.

Another feature which may need to be considered is the establishment of an e-learning network, something which is not currently found in the health industry. A learning network has been described by Peneul as follows:

[This network]... allows companies to create, catalog, schedule, and manage courses, register students for courses and automate the process, create learner profiles, and track usage of the system. The technology supports asynchronous discussions and e-mail among students and between learners and experts, as well as collaborative document construction (Penuel 1999:7-8).

According to Cook a learning network can provide support for teaching materials, self-assessment facilities, administrative information (i.e registration and tracking students), communication tools, resource gateways, course information, a personalized environment (i.e. information and resources relevant to the learner), pedagogical devices (i.e. quizzes) and some may also have automated timetabling, summative assessments and indexing of content (Cook 2001:6).

Organizations have been familiar with such learning networks since the early 1990s under a variety of names. Over the years, learning networks have evolved from 'training management systems' (TMSs), to 'Learning Management Systems' (LMSs), to 'Virtual Learning Environments' (VLEs) (cited in 2004:15). A learning network for health-care managers would give them access to learning opportunities right from their workstation, a service which currently does not exist. But prior to adopting an expensive infrastructure and new learning technology most learners would like to be assured of the outcome quality of such learning.

Most studies to date show no significant difference in learning outcome between traditional and e-learning. This finding was supported by the research of Smith (Smith 1999), Lesh(Lesh 2001), Balka (Balka 2004:11) and Beller and Or (Beller and Or n.d.:6). Weiger appears to agree with this outcome and added that e-learning interactions ranked equal or better than classroom interactions when it came to the ability to resolve disagreements and create common understanding (Weiger 1998:5). However, Strother concurred with the learning outcome success rate of e-learning citing two studies; a California study which found that e-learners performed twenty percent better than traditional learners, and a New Zealand study which found that distance learners made greater use of metacognitive strategies compared to classroom learners (cited by Strother, 2002:3-4). Vasarhely and Graham found that e-learning produced higher level scores in eighty-one percent of cases examined (Vasarhely and Graham 1997:3), and Johnson, Argon et al (Johnson, Aragon et al. 2000:32), Navarro and Shoemaker (Navarro and Shoemaker 2002), and Mason (Mason 2003:8) found that e-learning instruction resulted in improved performance. Jensen found that e-learning courses increased communications between instructors and students with course grade performance as good as grades in traditional courses (Jensen 2000:9). Valcke argues that studies which show no significant difference and/or no measurable effect between e-learning and traditional education may be faulted because of the assessment methodologies used and the nature of the effects measured (Valcke, n.d.:22). Nevertheless, it would appear that the general



consensus is that e-learning outcomes are at least as effective as classroom outcomes. Given the advantages of e-learning and the equivalency of learning outcomes, the challenge for educational designers may be to create an e-learning strategy that eases learners into a new delivery method.

Thus, the adoption of an e-learning strategy would not be new, as the NHS has already considered this approach for their health industry and it is already in use in the education of many health professionals. In providing learners with a single access route to learning information the industry will need a carefully structured plan to identify user interest and technological infrastructure. An electronic learning network is suggested as an essential component of this new infrastructure, one that can provide learners with quality information on e-learning options. Increased funding is essential for e-learning resources, infrastructure and new partnerships. Therefore, if e-learning is already established in other health areas, the next step is to determine if the health-care managers in British Columbia are familiar with or willing to consider e-learning.

### **8.2.2 Health-care managers already familiar with e-learning**

*Conclusion #13: Some health-care managers are already familiar with distance and e-learning*

The findings in chapter six show that seventy-three percent of survey respondents have already taken a distance learning course; and seventy-seven percent of that group would be interested in further distance learning. Those with the most interest in distance learning are females (75.1%), over fifty-one years of age (43.9%), working in urban locations (93.5%) and having both undergraduate and postgraduate education (50.5%). Distance learning is important to health-care managers, especially females, whether they reside in urban or non-urban locations for similar reasons identified by one survey respondent as follows:

I have been actively pursuing my degree for over five years through distance education. The last course was web-based and there are pros and cons to both options. Distance education is the only option for me as I work full-time in Human Resources and have two children. I can adjust my educational needs around my busy schedule.

The findings also show that forty-eight percent of respondents had experience with e-learning; more females (76.6 %), over forty-one years of age (79.1%), working in urban locations (93.6%). 85% of respondents indicated they have the computer/Internet skills for e-learning. Such skills were more prevalent in those with undergraduate and postgraduate education (52.4%), with nursing undergraduate education (35.6%) and business/management postgraduate education (47.3%). The strong female factor may show a greater need for women to find a learning method which allows them to balance education with family and community responsibilities.

The existence of gender differences in computer and Internet use has been well documented. Studies from the 1970s to the 1990s showed that more males than females were using computers as confirmed in the following comment:

Research data repeatedly indicate that males show more favourable attitudes towards computers, perceive that computers will be a career asset, and demonstrate greater interest, participation and competence in computing tasks than females (cited in Anderson, n.d.:1)

However, by the late 1990s this trend was shifting. A 1999 study by Sherman, End et al. found that the internet gender gap was narrowing but still significant (Sherman, End et al. 1999:1). By 2000, Gorki observed that women had surpassed men to become the majority of the e-learning population in the United States (Gorki 2003:1). In 2001, an American Association of University Women survey found that e-learning was increasing with women (2001:1). However, a University of California study discovered a continuing gender gap in the area of complex computer programming. The study also found that women spent less time on the Internet, in chat rooms and playing computer and video games (Mayfield 2001:1). These findings suggest that female health-care managers, while familiar with everyday computer activities in their working environment, may need further support and training in using learning technologies, particularly for Internet research, effective group discussions and preparing large documents and data spreadsheets.

With regard to age, this study has shown that those forty-one years and older (39.1% for the forty-one to fifty age group and 40.1% for the fifty-one plus age group) have the greatest e-learning experience. With regard to age the only comparative data in Canada focused on the use of technology by adult learners and showed a fifteen percent increase in use from the 1980s to the 1990s (2003:1). This study was not organized by age group. Another study in the United States did present technology utilization by age group. In this American study those under fifty showed a fifty-five percent use of computers, those fifty-one to fifty-six a forty-one percent, and those over fifty-six a twenty-two percent use (Kim, Hagerdom et al. 2001:vii). Another United States survey of working adults found that “thirty-two percent of those surveyed said they would rather take courses through the Internet than go to a classroom” (cited in Pastore, 2000:1). In general, the data shows that older health-care managers, those over forty-one years of age, would be more receptive to e-learning.

While e-learning health management options may be limited, some health-care managers in British Columbia have had e-learning opportunities in clinical/safety topics and/or through postgraduate or professional courses. Data was found on this in a 2003 study conducted by de Castro and Hansen at the Fraser Health Authority involving the six health authorities in the

province. The findings showed that fifty percent of eighteen individual health organizations contacted, were using e-learning for safety, clinical and under-graduate education. The study made no reference to management education (DeCastro and Hansen 2003:2). In addition, in interviews, senior health-care managers stated they and/or members of their management team were familiar with e-learning through university, college or professional organizational courses. In their opinion, their health authority managers would be receptive to further e-learning opportunities. However, another British Columbia study by Balka conducted from 2002-2004 for the Simon Fraser University found:

Attempts to introduce computer-based training in health care since the mid-1990s have met with limited success due to: high cost of implementation, human resource issues, operational barriers, and difficulties with technology (Balka 2004:7).

Nevertheless, health-care managers have had some prior experience with both distance and e-learning. The profile of those familiar with both distance and e-learning are female, over the age of forty-one, working in an urban location with undergraduate and postgraduate education. The profile of those familiar with e-learning fits the findings in current literature for gender but not for age as, in this study, it is the older health-care managers with the greatest e-learning experience. The findings also show that the majority of health-care managers feel they have the computer/Internet skills for e-learning. The dominance of females in distance and e-learning is not surprising due to their need to balance family, community and career responsibilities. For the health industry, these findings show that health-care managers would be receptive to an e-learning strategy, particularly those who fit the above profile. Arguably, if these older health-care managers are receptive to e-learning, the overall receptivity is strong as younger managers have grown up with the idea. The next step is to find out if survey respondents familiar with e-learning identify similar advantages in using learning technology as found in the literature.

### **8.2.3 Advantages and limitations of e-learning**

*Conclusion #14: Health-care managers familiar with e-learning cite similar advantages and limitations to such learning.*

In the qualitative data, four hundred and seventeen comments were provided with regard to respondent views on the advantages of e-learning. In collating these comments, the three top advantages identified by respondents were; convenience, flexibility and interactivity. Convenience received 42% of the comments. In comparing these comments with what is provided in literature, the material has been grouped into five categories; convenience, interactivity, the learning process, evaluation and implementation. Flexibility will be discussed in the convenience

category. The following information compares respondent views and literature information with regard to each of the five categories.

**Convenience:** In identifying convenience as the number one advantage of e-learning, respondents offered the following comments. E-learning allowed the learner the opportunity of studying at his/her own pace, working from any computer with Internet access, and studying at home. It gave the learner flexibility of time and location and open access to the facilitator and learning partners. E-learning also allowed the learner to balance study time and family responsibilities, and the benefit of being able to work and study at the same time. Respondents living in rural areas and small towns found e-learning to be their main access to higher education.

Earlier analysis of e-learning have made similar findings. Harasim, Hiltz et al. noted that restrictions of time were resolved with e-learning, and learners in remote areas were no longer denied access to the kind of education that they want or need because of location (Harasim, Hiltz et al. 1995:273-274). James mentioned that through e-learning access to learning was controlled by the learner, permitting them to proceed through a training program at their own pace and at their own place (James n.d.:1). Heterick, Mingle et al. also referred to greater flexibility in time, place and curriculum with e-learning (Heterick, Mingle et al. 1997:2-4). Survey respondents also listed flexibility as the number two advantage of e-learning. Ruderstam and Schoenholtz-Read stated that from an academic standpoint space ceases to be an obstacle to learning as e-learning is location independent (Rudestam and Schoenholtz-Read 2002). However, Gundy notes that the reality of e-learning being available “any place, any time” may not be as simple as it appears. Table 8.1 summarizes Gundy’s comments (Gundy 2003:1-2) and shows that time flexibility may be more complicated as it depends on how e-learning tools are incorporated into the learning process. Nevertheless, for those survey respondents with e-learning experience, convenience remains the strongest incentive for selecting e-learning.

**Table 8.1: E-Learning Flexibility**

<b>E-learning Tool</b>	<b>Location Flexibility</b>	<b>Time Flexibility</b>
<b>Web Pages:</b> Access through a web browser to a selection of text, graphics, animations and stored sound and video	any place	any time
<b>Discussion Forum:</b> Group version of email: learners exchange messages with each other and the tutor.	any place	flexible time
<b>Chat:</b> Learners dialogue in short messages with each other and the tutor in real time.	any place	set time
<b>Audio Conference:</b> A group telephone call: learners get debriefings from the tutor, or discuss learning material or individual/class progress	any place	set time
<b>Web Cast:</b> Live delivery of slides, images or streaming video often with an audio conference or chat session alongside.	any place	set time

**Interactivity:** Ranked as the third key advantage by respondents, they noted the ability to reflect on discussions and to see other responses to specific questions as being beneficial to learning. Group chat rooms and discussions also provided increased opportunity for networking and communication with the instructor and fellow-students. The expansion of a community of learners, whether as managerial leaders in health or other industries, from across Canada and/or in other countries, provided different perspectives and thought-provoking dialogue. One respondent appreciated the fact that as an introvert he/she did not feel pressured to speak until ready.

The value of interactivity with e-learning was also noted by other writers. Prestoungrange, Sandelands et al. noted the increased opportunity for sharing which is provided by e-learning (Prestoungrange, Sandelands et al. 2000:34). Hudspith and Ingram stated that e-learning interactivity provided continued contact for group members and encouraged wider use of team activities (Hudspith and Ingram 2002:2). Harasim, Hiltz et al. considered better access to group knowledge and support, high quality interactions and sharing, scope and depth of discussions to exceed face-to-face discussions, permitting learners to work in small groups and collaborate on assignments and lessons. These writers found that learners had more control of discussions, and could cover more ground, with greater depth of analysis because the e-learning classroom was typically always open. Confirming survey respondent comments, these authors noted that learners who characterized themselves as passive or unable to think quickly on their feet in face-to-face situations found that the asynchronicity of e-learning enabled them to participate more actively and effectively (Harasim, Hiltz et al. 1995:28, 173, 224, 232, 273 & 276). Rudestam and

Schoenholtz-Read observed that with e-learning communication was not controlled by dominant and assertive personalities, and that the medium created a feedback-rich network of shared knowledge and information (Rudestam and Schoenholtz-Read 2002). For adult learners sharing information and experiences with an expanded community of professionals was a valued resource.

***The learning process:*** Survey respondents identified accessibility as the fourth advantage of e-learning, providing the following additional comments. Respondents found that e-learning gave them an immediate opportunity to apply learning to the workplace. There were fewer learning interruptions with e-learning and just-in-time and just-enough learning was more conducive to the learner's time schedule. Being able to work ahead and complete the course quickly was another advantage. As adult learners the respondents appreciated fewer lectures, clear objectives, and better adherence to adult learning principles. The ability to 're-play' or skip segments of the course was a better use of learner time. Some respondents found the e-learning format to be less threatening, and they liked the multi-media (i.e. audio, video) capabilities of some e-learning materials. The modular approach also allowed the learner to spend more time on a focused area of study. A few respondents noted that e-learning enhanced their computer and Internet skills. Others liked the ability to learn through mistakes; space to think before writing; and clarity in the written submissions. Respondents indicated that with e-learning they had access to a vast amount of up-to-date information with less need for having to search for such information. Others liked the fact they could access these web-based resources as much or as little as desired.

In the literature other writers have similar views on the learning process. Urdan and Weggen referred to the twenty-four hour, seven day access which allowed individuals to learn at their own pace, work with smaller chunks of material and have greater control over their learning process. (Urdan and Weggen 2000:6). Meister supported open learning access from anywhere in the world (Meister 1998:151). Hudspith and Ingram noted that e-learning improved the technical skills of learners (Hudspith and Ingram 2002:2). Harasim, Kiltz et al. referred to the learner having more time to review, reread and reflect on ideas and referred to the educator as a facilitator (Harasim, Hiltz et al. 1995:15,194,238). Rudestam and Schoenholtz-Read noted that e-learning allowed the learner to read and reply at their own pace and use a "metered dosage" of instruction (Rudestam and Schoenholtz-Read 2002). In all, the e-learning process allowed adult learners greater control of the learning experience.

***Evaluation:*** A few respondents commented on the evaluation processes found with e-learning. Respondents appreciated the opportunity for self-evaluation of their learning and competency, quicker feedback on assignments and the ability to e-mail questions and concerns at any time. One respondent liked the variety of business background experiences of his/her tutors which provided different perspectives on the learning issues.

Commenting on e-learning evaluation, Meyen, Aust et al. indicated that the e-learning environment demands more intensive assessment because “while technology adds a level of efficiency to assessment in e-learning environments, it must also compensate for the lack of easy access to personal observation”. These authors believe there is very little difference between assessment options for e-learning and those used in traditional learning. Confirming this they identified the following e-learning assessment activities:

- Ungraded activities and feedback built into study materials
- Self-assessment quizzes and tests that allow learners to check their own learning
- Formal feedback on assignments from instructors, peers, or work place colleagues or mentors
- Informal dialogue with instructors, peers or others, and
- Ungraded tests that prepare learners for formal graded assessments.

In the view of these authors, the technology used in e-learning makes these assessment activities easier to plan and execute (Meyen, Aust et al. n.d.:4-7).

**Implementation:** With regard to administrative advantages, survey respondents noted that e-learning was less costly than traditional learning due to the elimination of travel and accommodation costs. Respondents also valued the reasonable time frame to complete a course with e-learning and being able to keep focused on a deadline. As adult learners they appreciated not having to use limited time for extra social activities, nor attend a scheduled class. They also valued the instant ‘online’ help and communications available in e-learning. Respondents also liked the well prepared format of the course, less use of paper and course manuals and the fact that it was easier to type than to write. They also found it convenient to submit assignments with no postal system time delays. Respondents found that e-learning courses were more diversified and structured to educate a small number of learners scattered over a large geographical area at the same time.

Administrative advantages were also noted by other writers. Reduced cost of e-learning was identified by Kruse, Meister, Obringer and Hudspith and Ingram (Kruse 2004:2); (Meister 1998:151); (Obringer n.d.:1); (Hudspith and Ingram 2002:2). Kruse noted reduced learning time, consistent delivery of content, and automated proof of course completion as a learning advantage (Kruse 2004:2). Meister’s list of positive administrative features of e-learning included: the Internet’s capability in customizing the learning experience, providing an automatic tracking of each learning interaction, and allowing the individual’s desktop computer to become a ‘learning storefront’ (Meister 1998:151). Obringer noted e-learning allowed the learner to move through a course more quickly updating the material and it easily adapted to large groups of learners (Obringer n.d.:1). Hudspith and Ingram see e-learning as being cost effective in large

organizations and enhancing teamwork and the sharing of group discussions (Hudspith and Ingram 2002:2). Prestoungrange, Sanderlands et al. state that the Internet is more comprehensive, more easily searchable, is globally available, and enables the mobile manager to stay in touch with colleagues (Prestoungrange, Sandelands et al. 2000:34-35). In a report from Trinity College, Dublin, the added value of e-learning was noted as providing:

- Real-world contexts for learning
- Connections to outside experts
- Visualization and analysis tools
- Environments that are learner-centered and encourage active learning
- Scaffolds for problem solving, and
- Opportunities for feedback, reflection and revision (2002:1).

In summary, survey respondents in this study identified many of the same advantages of e-learning as found in the literature. However, not all respondents favoured e-learning as shown in the following comments.

I prefer to work face-to-face but the e-learning group was OK, it helped that we knew each other first.

I personally found no advantages to e-learning and dropped the course.

I have done two-credit courses on line and hated them. Having done numerous other courses as distance education and classroom, I found the e-learning course inflexible with assignments, long delays in grading assignments and interaction between students and instructor stilted.

It may be my age but I have spoken to many health professionals who express similar frustrations with e-learning courses and laud the small group experiences for interactive learning.

Don't like the e-learning mode, it is too cumbersome, I'm too old to learn this way..

Clearly e-learning is not preferred by all learners. In addition, senior health-care managers also expressed some reservations about this delivery method as noted in the following comments:

While some of the younger managers have computer skills they have difficulty in completing simple reports. The older managers have a resistance to computers, even doing Excel spreadsheet and Word documents, but they know their field.



E-learning seems to suit those who are self-directed and self-motivated. Personally, I found that e-learning presented too much separation between the instructor and the student, no social support and there was no tutor interaction.

Recognizing that e-learning may not be suited to all learners, another survey question asked respondents why they did not choose e-learning. The findings identify three main reasons why respondents did not choose e-learning. These were: a preference for face-to-face learning, technological problems ( i.e no computer, not adept at using a computer or Internet for study, not able to access home computer for study), and not being aware of e-learning resources. Forty-three percent of respondents preferred face-to-face learning; mainly females (55.9%), over fifty-one years of age (58.6%), working in urban locations (98.2%), with undergraduate and postgraduate education, with business/management undergraduate and postgraduate education. Forty percent of respondents identified technological problems; mainly females (76.7%), forty-one to fifty years of age (50.0%), working in urban locations (98.8%), with undergraduate/postgraduate education (40.7%), other undergraduate education (30.8%), and nursing and health related postgraduate education (28.6% respectively). Thirty-seven percent of respondents were unaware of e-learning resources ; mainly females (68.8%), over fifty-one years of age (48.2%), working in an urban location (94.5%), with undergraduate and postgraduate education (42.0%), with nursing and other undergraduate education (30.1% respectively, and other postgraduate education (27.7%). The apparent anomaly of older females having more experience with e-learning and having difficulties with technology may be explained by their need for a convenient means of professional development but still being uneasy at using technology for learning.

Whether improved equipment, lease-to-own arrangements for equipment or more computer training might resolve the technological problems will require further study. Improving access to technology will be important if the health industry is to proceed with an e-learning strategy. Better communications and marketing of e-learning resources might address the awareness issue, better still would be to have e-learning information on the managers workstation computer. Imel highlights the following factors to improve adult learner reception to learning technologies:

- Creating a place where learners can collect important ideas, express themselves, and feel some security that they are going in the right direction,
- Providing fast and productive access to help when it is needed,
- Providing a learning environment that promotes both independent and interdependent activities with cognitive as well as psychosocial support, and

- Ensuring that the learning tools are intuitive and essential for the immediate task” (Imel 1999:3)

In addition to the issues found in this study, other writers have identify additional challenges in e-learning. Harasim, Hiltz et al. indicate that students report information overload, communication anxiety, increased work and responsibility, difficulties in navigating online and following discussion threads, loss of visual cues, time management problems, and concerns about health related issues in computer use, as some of their reservations about e-learning (Harasim, Hiltz et al. 1995:15). Gallagher notes that there is a growing body of evidence that students lack the capacity and inclination for independent learning that is required of an e-learning environment (Gallagher 2001:12). Ludwig-Hardman and Dunlop in studying the high drop-out rate of e-learning state that the challenge for e-learning providers is not so much in the recruitment of students but in how to retain them once they had them. Learner support services were seen as a critical component of an effective retention program. He also found that some students were not self-directed learners and were ill equipped to deal with the demands of studying at a distance (Ludwig-Hardman and Dunlop 2003:4). Mitra observed that some e-learning materials were reactive, did not address different learning styles, did not recognize different psychological responses from users, did not accumulate user experience, did not address the reduced attention span of users, the just-in-time or on-demand requirements of the user or the heterogeneity of Internet users (Mitra 2003:20-21). Rudestam and Schoenholtz argued that the concern over the lack of interpersonal contact depended on the quality of the interactive structure of the e-learning course. These authors also noted that in addressing this issue greater efforts had been made to improve interactivity in e-learning in recent years (Rudestam and Schoenholtz-Read 2002).

In summary, this section has shown that e-learning is already available in other health industries. In addition, the findings of this study show that the majority of health-care managers are already familiar with distance learning, would be interested in other distance learning opportunities and a large percentage are already familiar with e-learning. Those familiar with e-learning have identified similar advantages to e-learning as found in the literature. However, the findings have also highlighted an ongoing preference for face-to-face learning, which may be attributed to the need for social networking at a time of organizational change and/or the familiarity with a delivery method available in the health authorities. Technological issues have been identified by study participants and the health industry will need to address these if e-learning is to prosper. Further discussion on technical issues will be made in 8.4.1. Increased awareness of e-learning resources can be addressed through better communications. Given that health-care managers have a familiarity with e-learning the next step is to see how learning technologies might be incorporated into the workplace to address their learning needs.

### 8.3 The benefits of e-learning for health-care managers

In the above section, it has been shown that e-learning is already established as a learning method in the health industry and many health-care managers have used this method of learning in their professional development. What is being proposed in this study is the application of e-learning for management education in the health industry. Specific to health management education, this section will focus on two areas, knowledge sharing and skill training, where e-learning may provide the greatest value for health-care managers. A blended learning method will also be considered in light of the findings in the above section.

#### 8.3.1 Knowledge sharing through e-learning

*Conclusion #15: Health-care managers believe that health reform has escalated the need for increased opportunities to share their knowledge with other managers.*

As noted in chapters two and three, health reform has accelerated the need for information in management decision-making, and heightened the need for knowledge management, particularly for managers. Burk describes knowledge management as “the process of capturing and sharing a community’s expertise to fulfill its mission”(Burk 1999:2) whereas Malhotra states that:

Knowledge management caters to the critical issues of organizational adaptation, survival and competence in face of increasingly discontinuous environmental change...Essentially, it embodies organizational processes that seek synergistic combination of data and information processing capacity of information technologies, and the creative and innovative capacity of human beings (Malhotra 1998:1)

The importance of knowledge sharing was also highlighted in the 2000 CCHSE study of Chief Executive Officers with the following recommendation:

More opportunities for exchange and dialogue among healthcare CEOs [Chief Executive Officers] should be fostered. Survey respondents provided detailed written responses indicating a desire to explain and share their experience. Although few healthcare CEOs use the Internet as a source of assistance in their role, Web-based opportunities for exchange offer the greatest potential (Armstrong, Brunelle et al. 2000:16)

It is not just Chief Executive Officers who require increased knowledge sharing. All health-care managers, particularly in today’s restructured working environment, require better means of communications with each other. Nine percent of senior health-care managers comments focused

on this topic and three percent of survey respondent comments. Senior health-care managers supported the need for increased collaboration between managers in the following comments:

We need to create situations so managers can connect with each other in building relationships.

Navigating the health authority is a key problem...with multiple changes and a shift in communications many are unsure who to talk to.

Managers from outside the health authority need to get an understanding of when to seek help, who to go to and what to do regarding such items as union collective agreements. At this time this is not being addressed.

Health-care managers need to know how to find the answers by using technology.

Survey respondents provided the following comments:

Find the managers in the system who are doing a phenomenal job, relieve them of their tasks for periods of time in order to have them mentor other leaders.

As middle managers, there is a need to learn from each other and to share knowledge. This has to be more formalized and utilize the capacity of managers to support each other.

We require more formalized mentorship between seasoned managers and more junior managers.

To enhance knowledge sharing in organizations, Penuel identifies two groups of learners: ‘newcomers’ (new to the organization or new to a position), and ‘experts’. Newcomers need to know whom to turn to with questions on organizational matters. Organizations need to provide newcomers with not only access to information but also access to experts, training opportunities and social occasions to build relationships and meet more experienced experts. Newcomers need to know how to do their jobs by solving typical problems and also capture on-the-job learning opportunities, to give them a deeper understanding of their role within the organization. Chapters three, four and seven show that many management newcomers are functioning without an orientation or at best have a web site of information with little follow-up. Currently, knowledge sharing is still primarily through the traditional methods of on-site verbal communication and printed documentation in the form of manuals or directives.

Experts, the second group of organizational learners, according to Penuel, need increased opportunities to interact with other experts, to share stories and to increase the network of community experts. By designing a learning strategy which incorporates technology to address the learning needs of both groups, Penuel sees workplace learning moving towards a more practice-oriented, competency-based structure as noted in the following comment:

The power of a particular [learning]tool lies not in the technology itself but in what people can accomplish when they use technology to learn while accomplishing significant tasks or solving important problems at work (Penuel 1999:2-3).

In the following paragraphs examples are provided as to how learning technologies can be utilized for knowledge sharing.

Penuel points out that newcomers need an array of information resources to help them understand their job and/or, if new to the organization, their new working environment. One information sharing technique, described by Penuel, is a *knowledge map*. This electronic map provides “a graphical representation of the distribution of knowledge in a company”, describing the location of information in the organization e.g. who’s responsible for it, what it is used for, and any access privileges. An example of an electronic knowledge map is the SPUD (Skills Planning and Development) Project at Microsoft. This knowledge management tool allows newcomers to get a sense of who might be available as a knowledge source in addressing certain service issues (Penuel 1999:11). A knowledge map would be most beneficial for health-care managers who, as noted in earlier chapters, are currently operating with limited orientation programs, and/or quickly accessible critical information to effectively carry out their management jobs.

Capturing expert knowledge for use as a learning tool is another valuable aid for both newcomers and experts. Capturing such expertise is particularly important to the health industry at this time as the industry anticipates a major exodus of senior managers. The non-written management decision-making skills which lie at the heart of organizational strategies and culture, would be of value to current and future managers and needs to be captured. Recent requests for more mentoring and coaching in the health industry may reflect this need for increased expert knowledge as found in the following comments of survey respondents:

Would like to see more mentorship type programs...would like to be able to learn from others who have gone before me. I rarely have time to speak to my supervisors, they are too busy dealing with really big issues.

There needs to be a significant improvement in the mentoring system if there are going to be quality managers in the future ready to take in the increasing levels of responsibility.

We require more formalized mentorship between seasoned managers and more junior managers.

Senior health-care managers equally supported this need for mentoring in the following comments:

No one has time for mentoring or giving support especially to new managers who are having more difficulties.

We would like to develop a mentoring program using technology and face-to-face contact. Experienced health-care managers could transfer corporate history and the political aspects of the health industry.

The idea of using technology (i.e. e-mail) to facilitate a mentoring/coaching program is a good one, especially if it utilizes the abilities of soon-to-be-retired managers. But such a program will need standards and measurable outcomes if it is to provide value to the industry. Other methods in capturing expert knowledge may also benefit the health industry.

Another idea in sharing knowledge according to Penuel is the gathering of “war stories from organizational experts as done at the Institute of Learning (ILS) at Northwestern University. Company war stories are captured on interesting and unusual problems faced by individuals (i.e. the intractable customer service problems) or inventive solutions to problems, the experts providing insight in handling real problems in the organization. Penuel refers to two software tools such as GuSS (Guided Social Simulation) and SPIEL (Story Producer for Interactive Learning ) that are used to recontextualize operational expertise into learning scenarios.

According to Penuel these stories help to:

....characterize non-canonical practice, that is, events that are anomalous, unusual, or surprising. Describing the non-canonical, helps workers understand what can't be written down in policy guidelines, procedures, or other kinds of directive documentation. It gives them clues for what to pay attention to, for what kinds of tacit knowledge they will need to perform skillfully on the job (Penuel 1999:13-15).

By capturing the operational expertise and management knowledge of the health industry, health-care managers would be able to preserve valuable knowledge for newcomers and create an archival database for managers. Concern has been voiced on whether health-care managers would be willing or have the time for such data collection and/or if such information was collected if it would be used. This concern may be alleviated by the fact that some health professionals already use such tools for clinical purposes. Registered nurses and Public Health nurses in British

Columbia currently use listserv<sup>1</sup> technology through their professional associations to obtain information on clinical issues, and information technologists in one health authority share a common communication system. The value of such knowledge sharing may have to be conveyed to other health-care managers. Further research may be able to capture such information on a common health management database.

Another means of capturing organizational memory relates to customer relationships. Penuel describes an electronic tool called the Answer Garden which incorporates the retrieval of commonly-asked questions of customers stored in a database. According to Penuel, the Answer Garden, might be regarded as:

...a “just-in-time” learning solution where learning is not lost but is maintained as part of the organization’s history of learning opportunities (Penuel 1999:16-17).

The health industry traditionally provides a great deal of information to their health clients on numerous health issues. Creating a database of commonly asked questions would save health industry employee time and provide greater consistency in the message.

Experts, the second group of learners, require a different approach to knowledge sharing. Experts need an acknowledgement of their fundamental value to the organization as innovators, problem-solvers, and as leaders in promoting the vision of the organization. By facilitating the opportunities for these experts to share ideas an organization, according to Peneul, may:

...force them [experts] to rethink their approaches to defining and solving problems they encounter on the job. By encountering diverse perspectives, experts become less likely to remain blinded by their own professional biases, and to see new and challenging problems as opportunities to apply what they know to engage the company’s emerging problems and opportunities(Penuel 1999:18).

Several examples of how other organizations enhanced the knowledge sharing among their experts may provide insight into how this principle may be used for health-care managers. In a Denver Project portable radios were distributed to technicians to collaborate in solving difficult problems. In time a shared company database was created on interpreting situations, and diagnosing and solving problems, their stories acting as “repositories of accumulated wisdom” (cited by Penuel, 1999:19-20). A similar expert database was created for learning technologies in

---

1. Listserv is a computer program that automatically distribute an e-mail message to individuals who are part of a list. Messages can usually only be sent or received by members of the list.

the Center for Innovative Learning Technologies (CILT) (Penuel 1999:21) and another for the United States Army operations in the Center for Army Lessons Learner (CALL) (Penuel 1999:22), each system converting expert knowledge for the benefit of the whole organization. The concept of capturing the wisdom of expert health-care managers would strengthen the health industry as managers build on their problem solving expertise.

The importance of creating a professional community for sharing information was noted by Harasim, Hirtz et al. as: “professionals can use learning networks to stay abreast of developments in the field and to gain access to peers and resources relevant to their work”(Harasim, Hiltz et al. 1995:245). However, Denning states that it is often difficult for an organization to establish a strategy for sharing knowledge because:

It entails collective visioning as to how sharing knowledge can enhance organizational performance, and the reaching of a consensus among the senior management of the organization that the course of action involved in sharing knowledge will in fact be pursued (Denning 2000:1)

Sharing knowledge within one organization or among a number of organizations is essential in an industry where health-care managers operate on a number of sites and are expected to integrate a single standard of health service. Knowledge sharing may also address the work and time issues of many health-care managers particularly in situations where increased information and expertise is needed for decision-making. Since knowledge sharing and learning are becoming more intertwined in many organizations through the aid of learning technologies, the next area for review is how e-learning may benefit skill development.

### **8.3.2 Skill training through e-learning**

Conclusion #16: Health-care managers are experiencing a gradual shift to e-learning.

Chapters three and seven showed that health reform has changed the learning environment and priorities of health-care managers and introduced new challenges. Many health-care managers have difficulties in accessing learning opportunities because of their workload and the classroom format offered in their health organizations. While the introduction of learning technologies may be considered a valuable tool to aid organizations in weaving learning more directly into everyday workplace activities, much of its development is still in its infancy. For example, the NHSU envisioned a range of learning options for the NHS from small units all the way through to university degree programs. Small learning units are sometimes referred to as ‘chunks’, ‘bites’, or ‘just-in-time’ learning and have become more popular in recent years with the arrival of



handheld computers and Personal Digital Assistants (PDAs) into the workplace. While PDA devices are relatively new, the idea of delivering learning directly into the hands of professionals in small portions is important to organizations with heavy workloads and limited time for learning.

Embedding learning directly into the workplace is not new, technology has simply streamlined the idea from a manual system (i.e. organizational policy and procedure manuals) to an electronic system. Admittedly, technology has introduced a more extensive network of possibilities. The creation of these small units of learning introduces the topic of 'learning objects'. Learning objects may be described as a learning technology concept with the:

Potential to revolutionize the paradigm for organizational learning. The concept is simple: leverage database, Internet, and other digital technologies to prepare learning content as discreet small 'chunks' or 'Learning Objects' that can be used alone or dynamically assembled to provide 'just enough' and 'just-in-time' learning. Learning Objects can also enable learners to select the training that is most relevant for them and perhaps even in a media format that matches their preferred learning style (cited in Griffith 2003:3)

A 2002 survey of higher education institutions in the United States on the utilization of learning objects found that learning objects were used mainly in the natural and physical sciences, computer sciences and medical sciences such as nursing (cited in Griffith 2003:6). While the development of small learning units for health-care managers may take years to develop the idea is already being considered in other organizations. For health-care managers this would introduce a convenient learning method to facilitate decision-making at the frontlines of the industry. Another learning option is 'on the periphery' learning which introduces learning technologies to test the decision-making abilities of managers.

Learning 'on the periphery', allows the individual to learn while they are adapting to a new role and gives experts an opportunity to refresh their skills and test new ideas. Such periphery practice can be achieved by interaction with experts through simulations and modeling or problem-solving tools (Penuel 1999:12). Two examples of 'on the periphery' learning as simulation learning labs and a problem-based learning program.

Organizational simulation learning labs already exist in other industries and in higher education such as the Quaker Oats program (cited by Follows, 1999:1), a complex business program in Finland (Smeds, Takala et al. 1999:1), the 'Electric Utility Game' in the United States (Meister 1998:102-104) and International Business Games (cited by Thorelli 2001:2). A single application of a management simulator and learning experience was designed for the New

England Healthcare Assembly to deal with change (Hirsch and Immediato 1998). The benefit of virtual reality, according to Henderson, is that “simulation allows learners to participate in much more complex and realistic situations of knowledge use, leading to rapid honing of skills and tuning of knowledge patterns.(Henderson 1999:2). Williams states that:

Simulation experiences have the potential to become powerful instruments of cognition. They support both experiential and reflective processes: experiential because one can simply sit back and experience the sights, sounds, and motion; reflective because simulators make possible experimentation with the study of actions that would be too expensive to try in real life (Williams n.d.:2).

The availability of simulation learning programs would benefit an industry where further health reform is anticipated and where there are numbers of inexperienced managers and/or managers without a health industry background. Such programs would allow managers to test concepts and theories prior to implementing costly reform measures over a large geographic area. As simulation programs are costly, new partnerships would be needed.

Another periphery learning example is the use of a problem-based learning, an approach currently utilized in medical education where the learner is presented with a problem or case-based learning situation, similar to the problems they will encounter in their work practice to help medical students make accurate diagnoses using the fewest steps (minimizing costs) and greatest efficiency (using expert search patterns) (Penuel 1999:9-11). Such a program for health-care managers would test their problem solving abilities and decision-making, a quality measure which is currently unavailable. This learning tool, if available, would benefit an industry where costly management decisions can not only affect regional health services but the lives of many citizens. Much research is needed in developing ‘on the periphery’ tools for health-care managers. In the meantime learning technologies will need to be applied to traditional skill training methods and delivery options.

In this study health-care managers were asked to rate the features of thee educational delivery methods i.e. classroom, paper-based distance and e-learning) using a list of thirteen variables. The thirteen variables used in rating the three learning delivery methods were:

- Course choices tailored to the learner
- Course duration tailored to the learner
- Course accessible when needed
- Flexible registration
- Course guidelines are clearly stated

- Opportunities for evaluation of progress
- Pace of course is tailored to learner
- Technology aspects are easy to learn
- Group work for learning
- Assignments are clear
- Reading/other resources are easy to access,
- Good discussion/interaction with other students, *and*
- Instructor access is flexible and timely.

In the overall mean rating classroom learning received some of the highest ratings. Individually, the findings show that respondents rated classroom learning high in interaction with other students, group work for learning, clear assignments, course guidelines clearly stated, opportunities for evaluation of progress and technology aspects easy to learn. Paper-based distance learning was rated high in course guidelines clearly stated, assignments are clear, course accessible when needed, pace of course tailored to learner, and course duration tailored to learner. E-learning was rated high in course accessible when needed, pace of course tailored to learner, registration is flexible, course guidelines clearly stated and course duration tailored to learner. In comparison of the three delivery methods, classroom learning was rated highest in seven variables and e-learning in six. In one variable, course guidelines clearly stated, there was a very slight differences in the rating between classroom (3.95) and e-learning (3.93). Table 8.2 lists the variables by delivery method.

**Table 8.2: Summary of Education Delivery Preference by Variable**

<b>Classroom Learning</b>	<b>E-learning</b>
<b>Course guidelines are clearly stated</b>	<b>Course choice tailored to the learner</b>
<b>Opportunities for evaluation of progress</b>	<b>Course duration tailored to the learner</b>
<b>Technology aspects easy to learn</b>	<b>Course accessible when needed</b>
<b>Group work for learning</b>	<b>Registration is flexible</b>
<b>Assignments are clear</b>	<b>Pace of course is tailored to the learner</b>
<b>Good discussion/interaction with other students</b>	<b>Reading/other resources easy to access</b>
<b>Instructor access is flexible and timely</b>	

The findings also show that those with e-learning experience rated e-learning higher than classroom or paper-based distance learning, but they also rated classroom learning high in assignments being clear and group/interactive activities.

The variables selected for e-learning were consistent with the advantages previously identified in 8.2.2. What is of interest, is the selection of variables for classroom learning. Several senior

managers felt that classroom learning was preferred by health-care managers because it provides them with a social setting for sharing operational knowledge, understanding current reform changes, and giving them a setting for building relationships. This suggests that if e-learning is to grow, e-learning materials and services may have to give more attention to interactive measures.

The findings may also show that e-learning is slowly gaining acceptance within the health-care management group. As noted above, the majority of health-care managers believe they have the computer/Internet skills for e-learning, which may show a wider acceptance of this delivery method than previously thought. While a preference for classroom learning continues, senior health-care managers believe e-learning is inevitable in the health industry as noted in the following comments:

Some learning must become e-learning as class time is too time consuming.

We need to do more e-learning but we will need to be selective. We will definitely make more use of e-learning in the future, it is a matter of choosing the content and recognizing what is not suited to this media.

Industry stakeholders reiterated that with increased workloads and the need for increased information and skills, more e-learning was essential for management education. If e-learning is to be considered for the health industry of British Columbia, then the e-learning platform identified by the NHSU might be a good starting guide as it entailed the following features:

- “‘once only’ registration for NHSU learners
- Self-assessment tools to identify preferred learning styles, learning needs and preferences;
- Searchable directories of NHSU learning programmes with signposting to external courses and learning opportunities;
- Content management systems allowing tutors and learners to comply and sequence learning objects and to tailor programmes to individual needs;
- A personal page for each learner to record their learning experience, accumulate credit, reflect on their learning and view their progress against their Personal Development Plan;
- An on-line library and knowledge management system to support and extend the learning resources available;

- Facilities for synchronous and asynchronous discussion with other learners, tutors, mentors, and ‘buddies’ and to support virtual communities networks and work-based learning sets;
- User tracking and progress monitoring tools and assessment and accreditation services; and
- Tools to support tutors and learners in managing locally-based resources and facilities and to capture the outcome of non-e-learning components” (2003:115)

The simplicity and/or complexity of e-learning course content will depend on the current learning needs of the health-care managers and how adaptive curriculum can be to a changing industry. To assist with possible curriculum planning a list of health management education topics, identified by study participants, may be found in Appendix H. The task for the educational planners is to design a range of e-learning options from the small units to more extensive e-learning products all the way to a postgraduate degree. To achieve this objective for health-care managers the health industry will need strong leadership, innovative partnerships and new funding.

In summary, educational planners need to create e-learning products suitable to the learning and time limits set by health-care managers. To achieve this goal this section has examined small learning units, ‘on the periphery’ learning and the idea of more extensive learning options all the way to degree preparation. Creating an e-learning inventory will be covered in section 8.4.2. Creating a flexible e-learning environment with a strong support network will be essential if maximum learning is to be achieved. While new partnerships will benefit such a strategy, success is dependent on the industry finding new funding for this initiative. Since health-care managers in this study have clearly stated they still favour face-to-face learning, a pure e-learning strategy is likely not viable for the health industry. For this reason a blended option needs to be considered.

### **8.3.3 Preference for a blended learning method**

As indicated in the comments of survey respondents, a learning approach beyond pure e-learning may already be in their thinking:

I wish there were more flexible ways to complete my second masters program ...e-learning only goes so far.

E-learning should coincide with some sort of face-to-face learning.

Senior health-care managers seem more certain that a blended learning option would be best for the industry:

I think health care is not suited to pure e-learning as health is a people industry.

I think the best is a blended format with pre-reading, interaction, mentoring and/or coaching.

A blended form would be best as there is need for interaction with peers, other learners and mentors. The online portion should have a mentor and time for interaction to make sure the learner understands the material.

The feedback from my managers is that they are more comfortable with a blended learning method, a mixture of face-to-face and e-learning. Managers find the face-to-face contact allows them to share experiences and strategies which has proven to be more effective in meeting their needs.”

Blended learning has been occurring since a textbook was used to support classroom teaching. It is selecting a variety of delivery methods from classroom to technology and combining to the best advantage for the learner. A blended option was also considered by the NHSU in which they looked at a mixture of learning options such as face-to-face, workshops, learning networks and communities, and peer learning sets. According to Rossett, Douglass et al. options for blended learning go beyond the classroom. They describe the blended options as being “formal and informal, technology-and people-based, independent and convivial and directive-and discovery-oriented”(Rossett, Douglass et al. 2003:1). A number of studies have highlighted the benefits of this blended approach. Dean and his colleagues found that “providing several linked options for learners, in addition to classroom training, increased what they learned”. In 2002, Delacey and Leonard reported that “students not only learned more when online sessions were added to traditional courses, but student interaction and satisfaction improved as well”(cited in Rossett, Douglass et al. 2003:1). The table created by Rossett, Douglass et al. follows, providing an illustration of the potential in a blended learning approach.

**Table 8.3: Blended Learning Approaches**

<p><b>Live face-to-face (formal)</b>          *Instructor-led classroom          *Workshops          *Coaching/.mentoring          *On-the-job (OTJ) training</p>	<p><b>Live face-to-face (informal)</b>          *Collegial connections          *Work teams          *Role modeling</p>
<p><b>Virtual collaboration/synchronous</b>          *Live e-learning classes          *E-mentoring</p>	<p><b>Virtual Collaboration/asynchronous</b>          *Email          *Online bulletin boards          *Listservs          *Online communities</p>
<p><b>Self-paced learning</b>          *Web learning modules          *Online resource links          *Simulations          *Scenarios          Video and audio CD/DVDs          *Workbooks</p>	<p><b>Performance support</b>          *Help systems          *Print job aids          *Knowledge databases          *Documentation          *Performance/decision support tools</p>

However, a word of caution is sounded by Weaver who notes that:

For learning initiatives to make a difference, they must blend the right content for the right learners, using the right instructional strategies and the right technologies (traditional and/or emerging), in the right environment (rewards, recognition, management support, systems alignment, communication and culture) to accomplish the desired outcomes (cited in 2004:2)

The key to blended learning seems to be in selecting the right combination of media that will achieve the best learning results for the lowest possible cost. For example a web-based curriculum might suit large numbers of learners at great distances. Or a simpler blended plan might create electronic content surrounded by interactive content such as a face-to-face meetings at the beginning and/or end of a course, with e-mail and electronic interactivity during the major study portion. An important point to remember in proposing a blended learning option for health-care managers is that the face-to-face component should be an option and not mandatory. Otherwise it will defeat the need to accommodate the learning needs of health-care managers residing in rural and remote parts of the province.

The social need of health-care managers, identified in earlier chapters, needs to be addressed as health reform continues. As an interim measure this social need can be best achieved with some form of face-to-face contact. But within a pure e-learning environment a social need can equally be addressed as noted by Dillenbough:

What is specific to virtual environments compared to any information space is that it is *populated*. The users are inside the information space and see a representation of themselves and/or others in the space. As soon as students see who else is interested by which information, the space becomes inherently social (Dillenbourg 2000:5).

This social interaction and learning is referred to by Dillenbourg as a “process of entering a culture” and argues that it is important to design such learning environments so that the culture closely matches the culture to be acquired (Dillenbourg 2000:21). In other words, the management culture of the health industry will need to be clearly reflected in the design of all e-learning methods.

While the literature points out that blended learning is gradually replacing pure e-learning, some may simply regard this shift as a natural evolution. For the health industry of British Columbia, a blended e-learning approach with some face-to-face contact by learners may be the best means of adapting to the lingering social needs of health-care managers. In time as learning technologies expand there will be the opportunity to offer learners a variety of options in their need new skills. The ultimate objective is to give health-care managers increased choice as the need for knowledge sharing and learning will continue to rise with ongoing health reform with the need for more qualified knowledge workers. Along with such planning is the need for vigilance with regard to the lingering challenges which e-learning still presents to an organization.

## **8.4 Learner and organizational challenges with e-learning**

Irrespective of all the positive features attributed to e-learning, it is still in its infancy. There remain technological and pedagogical issues which may be easing but still exist especially in a workforce dominated by older adults. There is also the issue of how to build a learning inventory of materials, especially for managers in a changing working environment, with products in which quality and cost are still uncertain. These topics will be briefly reviewed in this section, as they are important features in the establishment of an e-learning strategy.

### **8.4.1 Technological and pedagogical issues**

*Conclusion #17: A digital divide appears to exist within the ranks of health-care managers.*

E-learning offers the adult learner a new realm of exploration, shifting the learning process from ‘teaching’ to ‘learning’ or from ‘training’ to ‘learning solutions’. However, it also requires a change of mindset for both the learner and the educator. Minton argues that “the learner must be



comfortable enough with technology to concentrate on the content and operate efficiently with the interactive elements in the learning module” (Minton 2000:5).

As previously mentioned in 8.2.2, forty percent of respondents indicated that the reason e-learning was not chosen was due to technological problem noting such issues as having problems in using the computer or Internet for learning or in accessing a computer for learning. Those experiencing this problem were mainly females, forty-one to fifty years of age with undergraduate education. In chapter four similar issues were found in the literature. In addressing these technological problems the health industry may need innovative funding and support structures to address such technological issues if e-learning is to succeed. Five percent of senior health-care managers viewed technology as a barrier to learning noting that, in their opinion, new managers were more computer literate. While younger managers may be more computer literate, the findings in this study show that older health-care managers, mainly females, have had more e-learning experience. Admittedly, eighty-five percent of study participants indicate they have the computer/Internet skills for e-learning, but a true determinant of such skills is only possible through more research. Any e-learning strategy will need more precise data on such skills and possible consider an orientation on the technological expectations for learners, as suggested by one senior health-care manager:

For any distance education there should definitely be a technology orientation program to get learners familiar with the type of technology they will be using.

The findings of this study do not rule out a digital divide within the health-care management group for there is a lingering belief in the industry that younger managers are far more technologically sophisticated than older managers. Nevertheless, at this point in time, this study shows that older managers have more e-learning experience. But addressing the technological issues may be only part of the e-learning challenge. The pedagogical shift presented by e-learning may be even more daunting especially for older learners comfortable with a traditional learning environment.

For both learners and educators, this non-linear, non-segmented mode of presentation in e-learning is a departure from the traditional, linear learning methodology and presents new demands and expectations on both groups. E-learning expects the learner to be more self-disciplined, self-reliant, with good reading and time management skills. It also appeals to learners with a visual learning style which suggests that individuals need to be aware of their own learning style before opting for this form of learning. Kleiman points out that the social dynamics of e-learning are very different from classroom learning. He notes that the nature of online, asynchronous discussions differ in that e-learning:

- Generally involves text-based communications as the main means of interaction, rather than speech. This often results in changes in the level of learner communication, reflecting different participants' comfort levels with communicating in writing versus speech;
- Interactions are spread over time, so that all learners can have their say without limiting the chances of others to have their's; and
- Interactions have a very different pacing than classroom interactions. Participants and educators can respond to messages left days before, can wait and see what others say first, can take their time to compose their responses, and can link to other information (Kleiman 2004:2).

Not only has the learner's role changed, the educator's role has shifted to that of a facilitator, partner and/or guide in the learning process, a change which some adult learners may find very different from their traditional learning experiences. The degree of collaboration or interactivity in e-learning is another area in which both learners and educators may need new skills and a new awareness of time management. New demands on the educator, according to Shelton and Saltsman, come from greater expectation from learners because of the Internet (i.e. quicker responses) and a need for new skills in the planning and preparation of e-learning courses. It also means the course syllabus must have clearly defined course activities and directions (Shelton and Saltsman 2004:1-4) because the learner no longer has the face-to-face option of clarifying course details, a point also noted by Brown and Voltz (Brown and Voltz 2005:1).

The pedagogical differences for learner and educator are only the beginning of the changes found in e-learning. Brown and Voltz indicate that e-learning courses "are much more than the posting of traditional in-class materials on the Internet. Text, images, and sound can be combined to create materials that cater to several learning styles, and allow a degree of interactivity on the part of the learner"(Brown and Voltz 2005:2). Mayers indicates that there are two pedagogies associated with e-learning. One is the 'delivery of information'. This is predominately the pedagogy of the lecture or the book and emphasizes 'information' technology. The other is the 'tutorial dialogue' and involves conversations between tutors and students and mainly emphasizes the 'communication' aspect of e-learning. He feels that successful teaching is underpinned by both, but in terms of pedagogical effectiveness, the second (communications) is considered more important than the first (Mayers, 2000:2). Karaliotas contends that the Internet recreates the 'agora' or meeting place in which knowledge is not only shared but created and recreated (Karaliotas, 1997:4).

Peters concentrates on the hypertext of e-learning and notes that learners are confronted with text blocks representing ‘cognitive units’. Learners must browse through these cognitive units and develop an activity for which there is no corresponding example in traditional pedagogies. Once the starting point has been established, the learner can then “navigate” through an unknown “sea” of information. All cognitive units are linked with one another (nodes) to form a network, and this helps to form semantic networks in the learner’s head. Peters indicates that this different type of learning does not aim at declared or defined targets. While this leads to greater flexibility and variability in learning it cannot be adequately tested by traditional means. Such learning is referred to as targeted browsing, random browsing, associative browsing, or scanning searching, exploring, wandering and path finding, all linked to autonomous learning (Peters, 2000:6-7).

Modern complex organizational theory, previously mentioned in chapter three, is linked with learning technology by Siemens. His theory of ‘connectivism’ moves learning theory into the digital age with the integration of principles explored through chaos theory and network, complexity and self-organization topics. Learning within this theory is:

..... a process that occurs within nebulous environments of shifting core elements – not entirely under the control of the individual. Learning (defined as actionable knowledge) can reside outside of ourselves (within an organization or a database), is focused on connecting specialized information sets, and the connection that enable us to learn more are more important than our current state of knowing (Siemens 2004:3).

According to Siemens, connectivism is “driven by the understanding that decisions are based on rapidly altering foundations. New information is continually being acquired. The ability to draw distinctions between important and unimportant information is vital. The ability to recognize when new information alters the landscape based on decisions made yesterday is also critical”(Siemens 2004:3). Siemens sees “personal knowledge as being comprised of a network which feeds into organizations and institutions, which in turn feed back into the network, and then continue to provide learning to the individual. This cycle of knowledge development (personal to network to organization) allows learners to remain current in their field through the connections they have formed”(Siemens 2004:3).

As e-learning expands more research on learning theories will inevitably follow. As Rudestam and Schoenholtz-Read state:

The adoption of computer networks as the teaching vehicle of the future in higher education and corporate training demands a reexamination of our core beliefs in pedagogy and how students learn. The transfer of a classroom curriculum into cyberspace is deceptively simple, but doing so without an appreciation for the nuances and implications of learning online ignores not only the potential of this medium but also the inevitable realities of entering it (Rudestam and Schoenholtz-Read 2002).

Thus, in the early planning of an e-learning strategy both learners and educators will need to be fully aware of the technological and pedagogical learning challenges presented by e-learning. This study shows that older health-care managers have the greatest e-learning experience. Such experience does not rule out a digital divide within the health-care management group. Determining the level of computer/Internet skills of health-care managers will require a different study. Once the technological and pedagogical issues are understood, the next challenge will be how to build an e-learning inventory.

#### **8.4.2 Building an e-learning inventory**

According to Broadbent “there are four main ways to build an inventory of e-learning materials. They can be leased, purchased, converted, or built from the ground up. Many organizations subscribe to acquiring such materials through a service provider, or an application service provider (ASP). This is the way the health industry currently acquires clinical and/or safety e-learning resources. Some organizations may also purchase e-learning materials such as self-paced course software, bundled on CD-ROM or distributed over the web. Other groups convert existing instructor-led workshops to e-learning courses, while others build their e-learning materials from scratch”(Broadbent 2002:1-2). Decisions for all e-learning materials will vary according to the background of the organization, the target audience and other specific needs. One example are the guidelines used by the NHS which identified the following parameters: accreditation, length of course, duration of course, learner intake (i.e. is there a rolling intake), the prerequisites for the course (i.e. technological or academic), fees and funding model, is the course appropriate to the audience, infrastructure (i.e. can it support learners in remote locations), assessment strategy, and is there organizational readiness and funding (cited in 2003:10-11). Broadbent suggests, after a thorough review of possible courses within the organization a list of about four or five might be a reasonable number to initially convert to e-learning (Broadbent 2002:3-5). In other words, it is best to start on a small scale if an organization is starting from scratch.

Finding quality health management e-learning resources for health management education may be difficult. A global search may be required. This idea is supported by the experience of the NHS who found that “there is no easily accessible and comprehensive list of potential suppliers

for e-learning development contracts” (cited in 2003:18), and they were searching for general health material. In their efforts to acquire quality e-learning materials the NHS identified two broad headings in their contract negotiations:

- Authoring : which involves the pedagogic aspects of materials development, from needs analysis to learning objectives to learning content (delivery methodology, materials and assessment);
- Production: which involves taking the scripted materials and converting them into the required e-learning environment, be it CD-ROM or web-based

For the NHS the identification of a suitable supplier(s) depended upon the balance of the Authoring and/or Production skills that are required for the e-learning materials (cited in 2003:22).

If e-learning health management resources cannot be purchased then the next consideration may be partnering opportunities to create new learning materials. Potential partners may be found through for-profit or non-profit organizations, higher education, professional organizations, governments, health corporate universities, other industries and/or e- learning suppliers located in other jurisdictions. The benefit of partnering is that the expertise of others who have developed such resources can be shared. While partnering may address the initial need for e-learning materials the health organization still faces the daunting task of being able to keep these learning materials up-to-date as the industry keeps changing. All factors which will need careful planning and resources. However, even after careful planning the e-learning team may discover both a limitation of existing materials and/or that many materials are unsuited to their organization or achieve the desired learning outcome. At this point it may be that the organization will need to develop their own e-learning materials. However, creating e-learning materials from scratch is an expensive decision which will be examined more in 8.4.3.

Thus, one of the biggest issues facing the health industry in implementing an e-learning strategy is the acquisition of adequate e-learning resources. This search becomes more complicated if the organization is also determined to provide a range of e-learning materials such as mini-units to full e-learning courses. The health industry may have to do a global search for health-care management e-learning materials or face the possibility of creating their own e-learning. Whatever path is chosen e-learning planners will need vigilance to quality and costs.

### **8.4.3 Quality and costs**

In interviews with senior health-care managers and stakeholder discussions the two biggest concerns regarding e-learning were access to quality materials and the implementation cost. Both

issues continue to be debated as there are varying views on both topics. Quality was an issue in developing e-learning for the NHS which can be found in the following statement:

It is important to deliver quality e-learning, not just in terms of content or how it is delivered, but also relating to support structures and the learning principles behind the materials. Attention to detail, as well as a sound idea of the 'bigger picture' should ensure quality and, in turn, a worthwhile experience for the learner(2003:25)

However straightforward this statement, quality assurance of e-learning materials consists of a number of important components. Quality assurance and product testing require attention to course content, delivery method, support structures and learning principles and that the course content needs to be at the 'right' level for the learner, the text accurate and up-to-date, with clear navigation aids, and accessible to all learners (cited in 2003:25, 26). Testing must also ensure the product is working consistently and reliably, that it is easy to use and can be used by many people (cited in 2003:30-33). There is also a need to assess its value to the organization. Timely and appropriate feedback is essential. While the above quality assurance measures seem realistic, organizations continue to have concerns regarding the quality of e-learning technologies and materials and the reasons are many.

According to the World Bank Institute rigorous evaluation of learning technologies has been stymied by the lack of international benchmarks regarding policy reform; poor/non-existent international datasets dealing with technologies and education; and limited statistical models and analysis that focus on the link between technology and educational policy reform and its impact on the economic development process (cited by Valcke, n.d.:v-vii). The search for e-learning standards is global. With the delay in international standards, organizations and countries have established interim guideline such as: the National Protocols for Higher Education Approval Processes in Australia; the Consumer-Based Quality Guidelines for Learning Technologies and Distance Education in Canada (cited by Farrell, 2001:128); the IMS (Instructional Management Systems) Global Learning Consortium; the Western Cooperative for Educational Telecommunications guidelines; and the Open Learning program guidelines in Britain (cited by Farrell, 2001: 49 & 131). Others see quality in terms of appropriateness and completeness of the e-learning course, student access to quality support services (i.e. library, computer, faculty access, peer interaction); and the evaluation of specific learning outcomes or competency based objectives (Garson n.d.:3) (Strother 2002:6) (Downes 2001; 2003:7). Irrespective of such thoughts and actions, the ASTD reports that most quality e-learning assurance processes remain:

.....geographically rooted and focused on institutional providers. These processes are costly and slow; their metrics are rooted in utilization and completion rates rather than the added value or outcomes resulting from learning. As a result, the existing quality assurance system is not well suited to the dynamic, performance-focused, modular and borderless world of technology-enabled adult learning.....(cited in 2001:18).

Downes, adopting a different perspective, sees the need for open standards in course development to allow engineers from various software or hardware companies to develop devices and programs that operate in harmony (Downes 2001:21).

The underlying problem in the development of such standards, according to Ryan and Stedman, is that traditional quality assurance systemic measures are no longer adequate for the new educational environment, and thus, new models are needed to address quality monitoring and assurance (Ryan and Stedman 2001:48). Farrell notes that this new assurance model would not only have to address the quality of instruction and support services but also overcome problems of identifying relevant jurisdictions, assessing the credibility of overseas accreditation and regulating bodies, and assessing the contribution of respective partners where a consortium or partner is acting as the provider (Farrell 2001:127). Fender adds that new approaches to monitoring and accrediting learning will require new opportunities and processes. If other countries endorse the European approach, there will be increased movement toward an international standard based on the mutual recognition of professional qualifications and the need to remove barriers to job mobility (Fender 1999:31).

If e-learning in a business context is to be 'competency-based learning' there will need to be a greater reconciliation of academic and practitioner criteria for reviewing such learning. In Britain competency-based systems of education were designed to identify and describe behaviours that can be manifested and empirically observed and measured. The rigor of competency frameworks:

.....makes them uniquely suited as components of technology-assisted learning programmes. Technology-assisted learning can support the move to a quasi-market in education, where performance-linked funding and consumer choice are paramount virtues. By increasing the granularity of 'education consumables' learners are theoretically able to buy ever-smaller "chunks" of competence (cited in 2001:10-11).

The ASTD supports a competency-based approach and recommends that government and business work together to create a learner environment in which credentials are earned for demonstrated knowledge and skill, regardless of the source of the learning (cited in 2001:21), which was the suggestion of a survey respondent in this study. Whether or not an academic or

competency-based measurement system is adopted, the need for such quality assessment measures is regarded as critical if e-learning is to gain recognition within the traditional academic community and in the corporate world. While e-learning quality measures continue to evolve, the striving for such quality will inevitably escalate organizational concerns over costs.

Knowledge being one of the major assets in today's organizations should be one of the most identifiable costs but this is not the case. Stacey argues that since knowledge is not directly traded in markets it is not measured and recorded in corporate balance sheets. DeCarlo and Robinson note that costs are not identifiable because economists have traditionally treated education as an item of consumption (DeCarlo and Robinson 1966:42) (Stacey 2001:1). Regardless of this lack of cost data, Stewart sees organizations pressing onward in adapting to the knowledge economy without understanding how much they currently spend on education and even less about how much learning has actually occurred (Stewart 1997:64). But why is cost analysis so difficult?

Cost assessment of education remains problematic because of the variety of definitions of 'direct' and 'indirect' costs, organizational overhead and inconsistent approaches to cost estimates. According to Tucker, educational return-on-investment analysis remains difficult because of three problems: obtaining accurate measures of the full costs, measuring benefits without relying on subjective estimates, and isolating the impact of training on changes in performance (Tucker 1999:Ex. Sum.). Meister, taking a more general estimate, stated that on average one hundred corporate universities spend 2.2 percent of the corporate payroll on education and training (Meister 1998) but how this figure is derived is unclear. However difficult such assessment may be, employers will continue to demand assurance of a return-on-investment and improved job performance as a demonstration of new knowledge and skills. E-learning programs must expect nothing less. But assessing e-learning costs may prove to be even more difficult as noted in a Ryerson Polytechnic University report which stated:

Comparing technology-rich courses with more conventional ones, not just in the area of cost but also efficacy, may be like comparing apples and oranges .....(cited in 1998:54).

Research on e-learning costs has not resolved the complexity. Feder found that despite a number of studies carried out in Britain and elsewhere, very little reliable data exist on the cost of e-learning courses. This view is also held by Valcke and Leeuw in their report to the World Bank Institute (Valcke and Leeuw n.d.:21 & 27). Fender found that costing methodologies for e-learning are still being challenged and face numerous technical difficulties (Fender 1999:26). Rumble states that the few cost studies that exist focus on the costs of providing e-materials and e-teaching but not on e-administration or overhead costs (Rumble 2001:4). Further studies in



Britain and Australia found that there were difficulties in establishing the cost-benefits of computer-based learning systems. A Canadian study found that the e-learning approach was cheaper than a traditional face-to-face course. Other studies found that the cost per student was lower in digitally delivered learning than traditional classroom learning (cited in Valcke and Leeuw n.d.:23). However, Rumble found that because there was little consensus on costing models to draw any general conclusions, further cost analysis research was inevitable (Rumble 2001:2). Since costing models remain in question, looking at the developmental, operational and infrastructural costs separately might help.

Carey, Faber et al. indicate that: development time is notoriously difficult to estimate because it includes courseware, technology and human variables. Estimates of development time for an hour of Multimedia and Computer-based Training (CBT) vary from one hundred hours to three hundred plus hours (Carey, Farber et al. 1998:31). Arizona Learning Systems found a wide variation in these development costs, e.g. a course could cost from \$ 6,835 <sup>2</sup> (\$6000 US) to \$1,130,000 (\$1,000,000 US) for a three unit Internet course, depending on the approach used (Rumble n.d.:3). The higher cost was for a 'virtual reality' course. In Canada, the costs were estimated to vary from \$4,000 to \$100,000 per course with more extensive media input bringing the spending up to \$1,000,000 (Downes n.d.:5). While these costs seem high, this view is not held by all. Studies conducted at the Rochester Institute of Technology, the University of Illinois at Urbana-Champaign, the University of Maryland's University College, Drexel, Pace, and Pennsylvania State Universities revealed that the universities were hovering close to a break-even-point with their e-learning distance educational programs (Carr 2001:2). Ryerson Polytechnic University found that being able to update course content at lower costs reduced costs considerably over time (cited in 1988:53). Such variation in developmental costs may be one barrier to e-learning development. For this reason, e-learning planners need to be familiar with a variety of e-learning options, from the least to the most expensive.

Data on operational costs are also difficult to assess. Carey, Farber et al. compare development and operational costs for courses using learning technologies as follows:

Courses using learning technologies can be significantly more costly to develop than traditional courses. However, in many cases, the cost to deliver the equivalent course using learning technologies can be less than with the traditional approach. A breakeven occurs when the savings from course deliveries equals the incremental cost of developing and implementing the technology-based course (Carey, Farber et al. 1998:33).

---

2. Royal Bank of Canada currency conversion rate of December 10, 2005

Some argue that class size can drive down operational costs. Britain's Open University found that e-learning was viable only with large classes of two hundred or more, but such large class sizes were not feasible for some institutions (Garson n.d.:10). A University of Illinois study found that the Web-based course was more cost-effective than face-to-face teaching with classes of over forty students per year (cited in Langford and Seaborne 2003). However, Walliker found that even with a smaller population (i.e. one hundred learners and less than one hour of learning), e-learning was still more than forty percent less expensive than instructor-led training" (Walliker 2005:1). While operational cost data remains unclear, in general, e-learning appears to be less expensive with larger class sizes.

Infrastructural costs are a problem because the costs cannot be easily separated from the regular campus/organizational costs and must include technical support costs. In an overall cost comparison, Cunningham found an e-learning degree program was more expensive than an on-campus offering because he included the higher costs of development and infrastructure support (Fender 1999; Cunningham, Ryan et al. 2000:128). In summary, according to academic studies, developing e-learning materials from scratch appears to be the most expensive route, with some improvement on operational costs achieved with larger classes. Yet, a discrepancy appears to exist between the academic perspective and leading corporations.

A Unisys University Vice President stated that e-learning reduced training costs by twenty-five to forty-five percent, reduced training time by twenty-five to forty-five percent, and increased learning effectiveness by fifteen to forty-five percent. IBM considers e-learning to have saved some two hundred million dollars per year, while Dow Chemicals show a thirty million dollar saving in their first year of using e-learning (cited by Strother, 2002:1). A 1999 report by ASTD indicated that corporations saved between fifty to seventy percent when replacing instructor-led training with e-learning (cited in 2001:12). Langford and Seaborne found that studies from Britain and Europe also conclude that e-learning is about thirty percent cheaper, while many United States studies find per capita savings in the range of forty-five to seventy percent (Langford and Seaborne 2003). Rumble, attempting to resolve the apparent cost disparity between research data and corporate statements, made the following comment:

There is general agreement that online training courses are less expensive than face-to-face ones provided the development costs are spread across sufficient numbers of students (possibly over several years) and provided that one takes into account both savings on travel and accommodation costs, and the fact that less of an employer's productive time is lost (Rumble 2001:8).

Quality and costs will remain key issues for e-learning planners and will demand much more research. What is understood from the above information is that the health industry, as it contemplates an e-learning strategy, will need to be vigilant with regard to both of these issues. In summary, while identifying a number of challenges in the adoption of an e-learning strategy the material in this section does not negate its consideration. These challenges need to be acknowledged as educational planners progress forward in creating the most cost-effective learning strategy for the health industry. This study shows that health-care managers are ready for more e-learning, particularly for knowledge sharing and skill development. In review of the information provided in these two analytical chapters, a new health management educational strategy is proposed for British Columbia, the details to be presented in the next section.

## **8.5 A new health management educational strategy**

*Conclusion #18: Health-care managers are aware a new management education strategy is needed in British Columbia.*

The information presented in chapters four and six showed there is no clear health management educational strategy in the province of British Columbia for health-care managers. The lack of clear competency guidelines and support for education from the health organizations, the limitation in educational opportunities particularly with regard to competency training, organizational issues and access and credit issues all underscore this critical deficiency. The need for an overall health management educational plan and the need for management training was noted by the following survey respondents:

In this fast-paced, constantly changing stressful healthcare environment, it is necessary to remember to recognize the needs of those entrusted with leading the way, setting the tune and mentoring new leaders. Some concrete plans with set education for groups of management leaders within organizations needs to be planned, implemented and evaluated.

There should be a clearly defined and articulated organizational philosophy regarding management and leadership, and courses should be aligned with and support this philosophy. The opportunity to give managers experiences through mentorship, project work etc. should be considered at every turn.

Basic training in management skills should be mandatory for a person assuming a management position. It cannot be successful when an incapable person is raised to managerial levels without the basic skill-set to perform the duties required.

In addition, another respondent felt that their health organization should be responsible for management education:

There is some responsibility for organizations to provide administrative/management education. I worked four years in California and received a great deal of management/administrative education/networking which was invaluable in helping me understand the huge role changes I was experiencing.

Succession planning, noted in chapter three, is regarded as essential in meeting the anticipated management crisis expected with the retirement of the baby boomer generation. This issue was frequently mentioned by senior health managers. One survey respondent stated:

Health care organizations should be focusing on succession planning and providing management education to those 'in line' to assume management functions over the next several years.

Health stakeholders also mentioned the need to link succession planning and educational planning. The aging of health-care managers, first identified in chapter three, was confirmed in this study with seventy-one percent of respondents over forty-six years of age. This same aging trend was noted in interviews and stakeholder discussions where there were few managers under the age of forty. If, as is being anticipated, these older managers choose early retirement because of increasing workplace stress, and frustrations over a lack of skills in managing new responsibilities, then the leadership crisis may intensify.

The findings show that 40.6% of respondents needed greater clarification of learning path to choose as health organizations have not clearly indicated what management skills to pursue. In addition, both senior managers and industry stakeholders agree there is a vital need for a health management educational strategy. While the need for an educational strategy may be self-evident, its form and content are not so obvious.

The creation of a new health management educational strategy for British Columbia will need to involve all stakeholders; health-care managers, health organizations, educational providers and the provincial government, for it to be effective. In the absence of a current provincial health management educational strategy, principles used for the NHSU for management education may serve as a guide. The NHSU principles focused on securing benefit for patients, staff and health improvement and being innovative, flexible and accessible. The plan would be for all managers; it would be multi-professional and multi-disciplinary; the curriculum would be focused on health industry needs and priorities and help managers to be more effective learners. Support would be provided through mentors, tutors and technical services, and involve senior health industry leaders. The course content would be continuously and rapidly updated. The outcome would

assure that new skills were directed at improving health services. A business model approach was expected to maximize the value for money, and have greater transparency and accountability (2003:12 -15).

Thus, the following proposal for a health management educational strategy for British Columbia takes into consideration principles and ideas considered in the planning of the NHSU, ideas from literature, and the findings of this study. The new educational strategy might consist of the following features:

#### *General features*

- Focus on the health industry, quality care and tailored services to the health consumer/customer.
- Be innovative, flexible, accessible and sensitive to the time demands of health-care managers.
- Open to all managers and all potential managers.
- Promote curricula focused on health industry needs and priorities, based on real-life issues, containing balanced course content on current service delivery issues and organizational change
- Be manager-focused with learning carried out in the health organizations and incorporating managers to teach managers.
- Provide managers with a 'choice' in a range of learning delivery options from small units right through to academic degree programs delivered in a blended format.
- Provide managers with a personal learning plan and progress report.
- Provide an educational support network which includes educational tutors, technical educational support and mentors and coaches.
- Provide managers with mentoring and coaching from individuals with current health industry experience.
- Provide scholarships and other financial options.
- Provide tailored management internships.
- Develop new partnerships for management education.
- Support health management research and evaluation.

#### *E-learning features*

- Focus on learning technologies to enhance knowledge sharing and skill training.
- Work with Information Technology departments in the health industry to create an e-learning infrastructure and support network.
- Provide learners with an electronic self-assessment tool at their workstation to help identify personal learning style and learning needs.
- Regularly collect data on the learning needs of health-care managers.

- Provide learners with a computerized search program at their workstation to access educational opportunities (including e-learning). Educational advice to be available for 'learning path' planning.
- Enhance health-care management listserv technology to create more health-care management professional communities.
- Facilitate increased Internet collaboration between health-care managers within the health organizations, nationally and internationally.
- Create a database of information on health industry management issues, expert knowledge contacts, and/or health customer information.
- Promote the development of health management simulation and problem-solving tools.
- Study the effectiveness of e-learning mini-modules for health-care managers
- Develop quality assurance measures for all health management e-learning options.
- Develop costing analysis for all health management e-learning options.

Such a strategy would encourage ongoing frontline input into the planning and design of management education and address many of the points discussed in the previous chapters. The main purposes of the strategy is to provide learning equity, a fast track quality educational service with expanded course selection, support structures, technical tracking system and quality improvement. The objective is to provide health-care management learners with all the necessary information to make effective educational decisions and to provide ongoing data to support further educational development. The ultimate objective of this strategy is to create an well-designed, integrated learning system that becomes part of the everyday activities of frontline managers in the need for information and learning.

The structure of the new e-learning strategy for the health industry in British Columbia is not without precedent. The NHS has already considered an e-learning strategy for their health industry. The difference in this proposal is the combination of knowledge sharing and skill training into a single e-learning environment. The proposed e-learning strategy for British Columbia, like the overall health management education strategy, assumes a single plan for the industry to maximize education resources. The overall purpose of this new e-learning strategy is to more effectively integrate learning and work, and improve knowledge sharing and skill training, so that health-care managers can quickly adapt to ongoing change and complexity in the health industry.

## **8.6 Conclusion**

The material in this chapter shows that e-learning is not new to the health industry, it is just new for health-care managers in British Columbia. The findings show that a majority (66.6%) of

respondents have distance learning and a large percentage (47.6%) have e-learning experience, particularly females, those over forty-one years of age, and those with undergraduate and postgraduate education. In addition, the majority (85%) of respondents indicate they have the computer and Internet skills for such learning. When asked to compare e-learning with classroom and paper-based distance learning, e-learning was favoured in the features which provided the easy access and tailored learning. Those familiar with e-learning identified convenience, flexibility and interactivity as the three top reasons for choosing e-learning. Overall, respondents identified similar e-learning advantages as found in the literature. However, irrespective of the familiarity and stated skills for such learning, a large percentage of health-care managers prefer face-to-face learning and another group identify technological problems. A continuing preference for classroom learning has been attributed to the need for increased social contact during a time of organizational change. Acknowledging this ongoing face-to-face need, a blended e-learning model is proposed, with 'blended' referring to a variety of learning options. The technological issues may require innovative and funding solutions. The underlying question of whether health-care managers will accept learning with technology can be answered in the affirmative, particularly if e-learning is one of a number of learning options.

Study participants supported a need for increased knowledge sharing tools and procedures in light of the large number of new, or newly placed, managers, increased complexity of management portfolios, the need to coordinate health services over a large geographical area and ongoing organizational change. While some health-care managers are already familiar with electronic communication tools, others will need to be introduced to the value of such devices. In addition to such tools, the creation of management database systems are intended to streamline decision-making. A mentorship program for health-care managers may come at an opportune time as a potential new role for the anticipated exit of boomer managers from the industry.

Using learning technologies for skill development, a range of learning options are proposed from small e-learning units to more extensive programs up to graduate studies. The intended design of an e-learning strategy for frontline managers is to blend workplace and learning activities into a unified system of information and training, using learning technologies, and creating an educational service tailored to the individual learner. Expanded e-learning courses would then focus on more complex content and competencies. The integration of learning directly into the workflow pattern of the health organization is intended to synchronize learning and work, making it easier to adapt to organizational change. Whether the industry purchases or develops its own e-learning products, e-learning planners will remain cognizant of quality and cost issues. The e-learning strategy is part of an overall health-management education strategy being proposed for the health-care managers of British Columbia.

The overall health management educational strategy is to give equity in learning to all health-care managers, providing them with a clear plan and means to acquire the knowledge and skills needed to function in a changing industry. The proposed strategy of this study supports the new organizational model, recognizes the need for health-care managers to have immediate access to information and learning, strengthens the need for greater connection with other health management experts, and endorses the principle of lifelong learning. Such a strategy is vital to an industry needing resilient, well-trained leaders to manage ongoing organizational change.

By bringing management education to the grassroots of the health industry, where the largest number of managers reside, this proposal would complement any existing health management educational efforts. This health management education strategy may take years to develop as there is a need to address a number of fundamental challenges, such as:

- provincial government and health industry buy-in for the strategy;
- the creation of a provincial management education planning team;
- the introduction of an electronic health management educational needs assessment program for all health-care managers;
- the establishment of an electronic learning network to provide health-care managers with quality learning opportunities (including e-learning, track individual learning activities, and facilitate group learning,
- study a number of knowledge sharing and skill training technologies and evaluate pilot projects;
- develop quality assurance and cost analysis methods for the learning strategy; and
- investigate new partnerships to develop health management health management learning resources.

As ongoing change is inevitable in the health industry in British Columbia, learning challenges will remain. The industry needs to provide industry leaders with a reasonable working environment, easy access to information, expert knowledge, and skill development. This study argues that this need can be partially addressed through an e-learning strategy. In summary, the need for a strong health management education strategy is vital for the future management of the health industry in British Columbia.



## Chapter 9

### Conclusions

---

*The illiterate of the 21<sup>st</sup> century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn.*

*– Alvin Toffler*

#### 9.1 Introduction

The thesis has examined how health reform has affected the learning needs of health-care managers, and asks whether e-learning might be an option that could address certain aspects of these learning needs. This study has obtained input from over five hundred, currently employed health-care managers in the health industry in British Columbia. It has sought to understand the changes in the skill training needs of health-care managers after years of health reform, the educational resources currently available to meet these learning needs, and the views of managers on e-learning. Three research questions were used to facilitate the achievement of this goal:

1. How might recent changes in the health industry have affected the learning needs and priorities of health-care managers?
2. What factors might hinder attempts to meet any learning needs and priorities of health-care managers? *and*
3. What benefits might e-learning provide in overcoming hindrances to effective health management education?

This chapter will bring together the key findings of this study and discuss the conclusions that can be drawn with respect to each of these research questions. In addition, the chapter will assess the limitations present in the study, and identify possible future directions for research.

#### 9.2 Addressing the research questions

This study shows that since the late 1980s health reform has been changing the landscape of the health industry worldwide. The significance of such change has taken industry stakeholders and the public years to fully understand. During the thirteen years of health reform in British

Columbia, health management education has primarily focused on such reform topics as program and service changes, cost savings and human resources. Little research has been carried out on the reform process and none on the learning needs of health-care managers until this study. The priorities of most health-care managers have been on coping with the enormous amount of change in their working environment. This study gave health-care managers an opportunity to express their concerns regarding their current working environment and learning challenges. However, even if health-care managers had the time for more skill training, the study shows there are few health management educational opportunities available to meet their new skill training needs. In proposing e-learning as a key option in addressing the learning needs of these managers, examples have been taken from other industries where such leadership education has had time to be tested. The findings associated with each research question will now be examined.

### **9.2.1 Research question #1**

*How might recent changes in the health industry have affected the learning needs and priorities of health-care managers?*

This study found that health reform has expanded management responsibilities of health-care managers and increased the complexity of service delivery. At the same time, health-care managers are faced with a number of organizational changes such as, a reduction in management numbers and career opportunities, decreased support services, and increased communication problems. Limitations in orientation programs and a diminished traditional promotional system have left new, and newly appointed managers ill-equipped for the challenges created by health reform. With increased workloads, limited time and ongoing organizational uncertainties, health-care managers have either hesitated in pursuing additional learning or pursued such learning with no assurance it would benefit their career. Other health-care managers, nearing retirement, are considering an early departure from the industry, which would mean they are taking with them a great deal of intellectual capital. All of these factors have created a situation of uncertainty in the industry and this problem is expected to remain as government continues reform of the health industry in British Columbia. A continuing recruitment and retention crisis in the management ranks of the industry would not be unexpected. The proposed educational options identified in this study are intended to ameliorate some aspects of this crisis.

In determining what new skills are needed by health-care managers during this period of health reform, a short list of fourteen competencies (Refer to chapter five, p128) familiar to the health industry was used in the survey instrument. The findings from the survey indicated that of the fourteen competencies, twenty-nine percent of health-care managers had no training in the

competencies and fifty-seven percent had received their training mainly through in-service, workshops or seminars. For many health-care managers their competency training has mainly focused on change and complexity and people skills, competencies which they rated as high. Irrespective of gender, age, working location or undergraduate/postgraduate education health-care managers rated their planning and financial skills as low. A direct correlation was also found between the amount of skill training a manager had and how they rated themselves in certain skills. In all competencies those with some formal (i.e. undergraduate or postgraduate) education rated their skills higher than those with in-service/workshop training or no degree.

Using the same list of fourteen skills to prioritize their immediate learning needs, the health-care managers identified evidence-based management, change and complexity and financial analysis as their top three learning needs. Evidence-based management and financial analysis were both competencies rated lower by study participants. Industry stakeholders agreed with these two priority learning needs suggesting their importance has been amplified by the new corporate management structure with its emphasis on greater accountability and financial savings. The anomaly in the findings was change and complexity. The findings show that most health-care managers have training in change and complexity, only fifteen percent indicating they had no training. In addition, irrespective of gender, age and education study participants rated themselves high in this skill. The conclusion of health industry stakeholders was that the selection of change and complexity as a second learning need reflected concerns over ongoing health reform, and/or a need for a different set of change management skills beyond the current focus on coping skills. Ongoing organizational change is anticipated for health-care managers with continuing demands for new skills. Whatever the future offers, change and increased complexity in the industry appear inevitable. Such change will demand better trained leaders. What is apparent from this study is that further research will be needed to keep abreast of the learning changes caused by ongoing health reform.

Thus, the study found that health reform has affected the learning needs and priorities of health-care managers. Health-care managers, many with undergraduate and postgraduate qualifications, are facing a need for new management skills to manage a restructured industry. The need for increased skill training will continue to dominate the learning priorities of health-care managers as the industry continues to change. The question remains as to whether educational providers are fully aware of the change in the learning needs and priorities of this group of learners and whether learning opportunities can be adapted to respond quickly enough to shifting learning needs.

## 9.2.2 Research question #2

*What factors might hinder attempts to meet any learning needs and priorities of health-care managers?*

This study found that the biggest challenge to learning for health-care managers is their current working environment. The majority of health-care managers regard their increased workload as a barrier to learning. Study participants insisted that until there was a change in their working environment they would have little time for acquiring new skills. However, the data also shows that the majority of study participants had attended a management course in the past few years, which means that they had found time for some education. The lack of time for learning is a complex issue requiring more research into management practices and procedures, the use of technology, and/or increased frontline autonomy. In the meantime, if the industry supports the need for new skills for its leaders, time will have to be found for management education. Health-care managers themselves will also need to prioritize their acquisition of new skills to survive in a changing and complex industry.

Another challenge to learning for health-care managers is organizational support. The study found that health management education is both inconsistent and inequitable. Since the current focus in management education is on executive/senior managers it leaves the majority of health-care managers with limited learning opportunities. This policy was substantiated in the findings which found that executive managers have the highest degree of education while those at the program management level have the least. Some health-care managers also have difficulties with a perceived funding inequity for management education. To resolve this inequity the health industry will need guidelines on the appropriate balance between learners' entitlements and their personal responsibility for education. But first the health industry will have to clarify the skills needed for management positions, otherwise managers will continue to be hesitant in committing time and resources to career development. To stay on top of the shifting skill demands of its managers the industry may have to consider a learning needs assessment program for every managers' desk, so that personalized learning plans can be created and changed as managers adapt to ongoing health reform.

Another challenge to learning for health-care managers is the need for more academic credit. More academic credit for experience and other learning is being sought especially by females, over forty-one years of age, with undergraduate and postgraduate education. Currently, those health-care managers who receive most of their skill training through in-service, workshops and seminars receive little academic credit for their effort. The need for more academic credit has

escalated in recent years due to decreased job security and increased competition for a reduced number of management jobs. Recognizing prior experience and learning for academic credit will become essential if lifelong learning is to become part of the learning strategy for the health industry.

Access to learning opportunities remains a problem for many health-care managers particularly those residing in rural and remote regions of the province, those unable to get away from their jobs because of workload or limited backup, and/or because of restricted classroom space. It is for this reason an e-learning strategy is being proposed for health-care managers.

The study found that current and newly designed higher education management programs continue to focus on senior managers with the acquisition of an academic degree as their main objective. Yet, this study has found that the majority of those with no undergraduate or postgraduate education are at the program management level, the level with the largest proportion of managers. In addition, the findings show that even those with undergraduate and postgraduate education have limited training in certain competencies such as planning and finance. It will be up to the health industry to make sure educational providers at every level of management education are clear on the critical management skills needed in today's restructured industry.

The findings show that competency learning needs vary by time and educational background making the current 'one-size-fits-all' learning opportunities, of limited value to many health-care managers. Participants in this study gave many reasons why their current management education opportunities are not meeting their needs. The findings show that health-care managers not only need more tailored learning, but that they also cannot wait months or years for the creation of a new educational course to address shifting learning needs. Also, these adult learners do not wish to spend valuable time on educational opportunities that are ill-designed for their learning needs and do not give them practical skills to make their jobs easier. This dilemma is not unique to the health industry. Today's changing and complex organizations demand a more responsive educational system to meet the learning needs of its leaders.

Taking into consideration information from other sources and jurisdictions and the comments of survey respondents and health industry stakeholders, this study proposes a new health management educational strategy for British Columbia. The design of the new strategy is to be focused on the health industry, open to all managers and those interested in management, provide learners with educational information, tracking and/or monitoring, and access to educational advice.

As organizational change continues to envelop both the health industry and educational institutions, problems are inevitable. The health industry like many other industries faces a critical need to upgrade the skills of thousands of industry leaders following years of reform. While the health industry has been slow in identifying the learning needs of its leaders, it is vital that ways of meeting these learning needs be found. Existing barriers need to be studied and solutions found to facilitate the education of the majority of health-care managers.

### **9.2.3 Research question #3**

*What benefits might e-learning provide in overcoming hindrances to effective health management education?*

This study proposes a new e-learning strategy as a key component of the new health management education strategy referred to in 9.2.2. This study has examined using learning technologies to address the health-care management needs of skill training and knowledge sharing. With regard to skill training, the study found that the majority of health-care managers are already familiar with distance and e-learning and believe they have the computer and Internet skills for e-learning. Since the findings show that some health-care managers prefer face-to-face learning, a blended e-learning approach is proposed, with a number of variations to be considered in a blended model. The flexibility of a non-mandatory face-to-face component is suggested especially for those health-care managers in rural and remote areas of the province. The underlying principle of a blended learning method is to provide health-care managers with a variety of learning options, including classroom delivery. The e-learning option for health-care managers would give busy managers increased opportunities to upgrade their skills and keep up with organizational change. Organizational support would also be enhanced by giving learners more choice.

Using learning technologies for knowledge sharing would provide management newcomers and experts with tools to create a more interactive professional community. The findings of this study shows that health-care managers in British Columbia have lost a great deal of their support network for knowledge sharing during the reform process. Learning technologies for quicker access to information, greater sharing of expertise, and tests and/or refreshing skills, would strengthen decision-making and team building. Greater interactivity through technology would also give managers another option if they are using classroom networking as the sole means of keeping up-to-date with organizational change. Another knowledge sharing idea is to use technology for mentoring and coaching between older and younger managers or retired and active managers.

However, developing a multi-level e-learning plan presents a number of challenges. A move to increase e-learning in the health industry may be a problem for those health-care managers who have problems with technology, and forty percent of study participants indicated this was the case. While some problems may be ameliorated through easier access to computers, increased computer training, infrastructure support, or increased interactivity, realistically, not all learners will be comfortable with e-learning. One of the biggest challenges may be finding quality health management e-learning products. A global search or innovative partnerships may be required to achieve the quality of e-learning materials for training industry leaders. E-learning planners will need to be cognizant of quality and cost as they contemplate various methods in using learning technologies, starting from the least expensive. All of these challenges are not insurmountable but will take leadership, time and resources to develop.

This study has shown that the e-learning strategy being proposed for the health industry of British Columbia already exists in other industries and jurisdictions, including some health industries. Many large corporations pursue an e-learning strategy as the educational path for their leaders, particularly in a time of rapid change and when managers reside in various locations.. However, the e-learning strategy being proposed is just the beginning of an educational movement being considered for changing and complex organizations.

Predictions about the future direction of e-learning can be found in the comments of a number of writers. Farrell talks about an 'intellectual flexible learning model' developing, in which e-learning moves to more automated response systems that scan the text of incoming e-mail and respond intellectually without human intervention. Such a model would decrease the cost of online tuition and increase access to learning opportunities on a global scale. Farrell envisions learning that will be more 'learner centered' or 'customer aware', giving learners increased choice in the mode of delivery of their learning experience, able to access educational programs from anywhere, with skills and knowledge being assessed and credited towards future program credentials (Farrell 2001:151). Langford and Seaborne envision e-learning systems generating personalized content-based learning on individual competency assessments adapted to individual learning styles to provide just-in-time learning (Langford and Seaborne 2003). Read feels that voice recognition, virtual reality, automatic language translation, improvements in handwriting recognition, increased user friendly interfaces (i.e pen and touch), more modeling and simulation activities and the use of 'smart cards' will become essential aspects of learning in the future (Read 1995:12) Vasarhelyi thinks that better computers will eventually take over some of the routine faculty monitoring of learner progress, leading to some form of cyberteachers (Vasarhelyi

and Graham 1997:4). Garson sees education becoming highly individualized, with world-accessible records and learning tailored for each learner's past learning experiences and styles. He also suggests that e-learning will replace the lecture method in courses of fifteen or more learners (Garson n.d.:4). Gutierrez-Diaz suggests that technologies will create a continuous learning environment, a twinning of academic and business excellence to build the capability and skills of the full workforce (Gutierrez-Diaz 2001:4). Finally, in a report from Ireland, Kelly states that the potential of e-learning has not yet been captured and presents the following predictions for the future of learning technologies:

- Computer simulations that will allow learners to experience virtual worlds in a way that would be impossible or too expensive in real environments.
- New communication tools will enable learners to collaborate in complex projects and ask for help from teachers and experts around the world.
- Adaptive learning systems will accommodate differences in learner interests, aptitudes and background. They will act as intelligent teachers, build models of learners and intervene with relevant information just when needed.
- Portable technology will facilitate flexible learning and support new learning environments.
- Massive multiplayer online educational games will support creative, collaborative group learning.
- Open flexible component based architecture will ensure extensive frameworks for developing and integrating new technologies and tools.
- Learner data will be gathered unobtrusively as learners work on authentic practice tasks.
- Assessments will be automatically generated from cognitive models, learning objectives and knowledge components.
- Continuous measures of competence will allow learners to view learning plans and progress towards component skills directly relevant to their personal goal or job.
- Motivational strategies will guide learners to activities that are either easier or more challenging, resulting in an appropriate depth of engagement and deep learning.
- Learning will be embedded into the work environment providing just-in-time training and help at the right time. Each learner will get just the right amount of content needed and spend the minimum amount of time to attain mastery.



- In business, training costs will be significantly reduced and the capacity to respond and manage change will increase (Kelly 2004:21).

In summary, what is envisioned for the health industry is consistent with the e-learning approach currently being considered in different parts of the world for other industries. An e-learning strategy is needed in the health industry to create an interconnected workplace and learning network designed to respond quickly to organizational change. This approach is one that can also benefit all health jurisdictions, especially those facing ongoing health reform.

### **9.3 Limitations of the research**

The first challenge of this study was the scope of the topic. There was a need to describe health reform and its impact on the health organization and its managers, plus health management education as the foundation in understanding the need for e-learning for health-care managers. Information has been provided to capture the interconnected complexities of the topic and provide the rationale for e-learning as an essential learning approach for the industry.

The study itself had a number of limitations which were not entirely under the control of the researcher but nevertheless might have a bearing on the findings. The majority of survey respondents were from middle management, while interviews and stakeholder discussions were with a smaller number of senior health-care managers. Overall, the findings were from over five hundred health-care managers currently employed in the industry, a representative sample of the management group. While the survey response was low, the data did provide a perspective on the learning problems of health-care managers following thirteen years of health reform. With little research available on health industry leadership, this thesis, in the context of British Columbia, provided the first empirical data supporting the skill development needs of the industry's leaders.

Since all health-care managers in British Columbia did not participate in the survey, it might be considered another limitation. The web-based survey was limited to those managers who could be contacted through a group e-mail system within each health authority. Due to privacy policies, the web-based survey could only be implemented through a health authority representative. This meant that the researcher had to rely on this individual to facilitate the survey process, which in all but one instance worked well. The two largest health authority representatives effectively facilitated the survey process although they were disappointed in the low response rate. Yet, as noted above, the over five hundred participants in the study provided sufficient input to give depth to the findings on the current learning challenges of health-care managers and their views on e-learning.

Another limitation was that the study data was mainly from health-care managers who were forty years and older. While typical of this aging professional group, it meant that younger managers were less represented. Whether this would have changed the findings, particularly the e-learning data, to any significant degree is uncertain.

In summary, the qualitative data from survey respondents, senior health-care manager interviews, and industry stakeholder discussions along with the quantitative data from the survey provided useful information on a critical learning issue in the health industry. However, inevitably there are a number of areas where further research is needed.

#### **9.4 Implications for further research**

This study has pointed out a number of areas where more research is needed such as:

- Identifying the leadership characteristics of potential health industry leaders and in creating a recruitment program which originates in undergraduate programs.
- Assessing the learning needs of health-care managers based on best practice outcomes of each health-care manager's job.
- Creating an effective education service for health-care managers in order to direct them to the best health management educational opportunities and to track and monitor their learning efforts.
- Creating an inventory of health management educational opportunities, including e-learning opportunities, available provincially, nationally and globally.
- Developing a methodology to identify competency outcomes for health management education opportunities taking into account the changing management needs of the health organization.
- Developing effective funding models for measuring the return-on-investment of health management education opportunities including e-learning opportunities.
- Developing standards for effective mentoring and coaching methods as part of a learning strategy for health-care managers.
- Studying the effectiveness of learning communities for health-care managers testing various learning technologies.
- Studying and/or designing health management simulations and/or problem-solving tools for health management education.
- Studying the most effective knowledge sharing technologies for the health industry.

- Studying the need to revise traditional management practices and introduce new technologies to streamline the workload of health-care managers.
- Studying how increased autonomy might help the learning capabilities of health-care managers.

## **9.5 Final statement**

The publicly funded health industry of British Columbia was pressured into reform because of reduced federal government funding and increased service demands. Three different models of health reform have been introduced in the past thirteen years leaving both industry stakeholders and the public with concerns over quality and doubts over savings. This study shows that health reform will continue as the industry seeks greater efficiency and integration of services. More technology, privatization and new management techniques can be expected.

Health-care managers who have spent the past decade coping with change can expect little relief as further reform is already being contemplated. Decreased numbers of health-care managers have led to concerns over the under-management of the industry. Nevertheless, it is unlikely management numbers will increase, which means fewer managers will continue to be asked to do more with less resources. Such organizational change and complexity have led to an inevitable crisis in the recruitment and retention of industry leaders. One approach in addressing this crisis, as proposed in this study, is to provide health-care managers with an improved educational environment to meet their immediate and future skill training and knowledge sharing needs. A new, integrated, health management education strategy is proposed for British Columbia with a strong e-learning component. The implementation of this new strategy will require strong leadership and more resources to ensure that the industry has the best leaders to meet current and future management challenges.

In closing, it is good to report there is already action on this important topic. Provincial and federal health industry stakeholders, professional associations and education providers have been meeting since 2004 in discussing the leadership crisis facing the industry. In response, in the spring of 2005, the government of British Columbia, allocated three million dollars for a new health management educational initiative. Links have already been established with educators in the NHS management education programs in Britain. It is this researcher's understanding that e-learning will be considered in this new health management educational initiative.

## References

---

- (n.d.). Why is our health system ailing? Retrieved Mar 15, 2003 from <http://www.sprint.net.au/~rwb/healthsys.htm>.
- (n.d.). Peter Senge and the learning organization. Retrieved June 5, 2003 from <http://www.infed.org/thinkers/senge.htm>.
- (n.d.). Psychophysiology of stress according to Hans Selye. Retrieved Dec 17, 2003 from <http://tc.unl.edu/stress/resources/hansselye.html>.
- (n.d.). Part 1: lifelong learning and higher education. Retrieved Oct 8, 2003 from <http://www.unige.ch/eua/En/Publications/LLLdraft/part1.pdf>.
- (n.d.). Bandwidth primer: the basic conditions and terms used to describe information exchange over networks. Salt Lake City, Mentergy.
- (n.d.). Herding knowledge workers? Retrieved Oct 21, 2003 from <http://www.wmc.on.ca/articles/article06.htm>.
- (n.d.). Distance education: an overview. Retrieved Oct 31, 2002 from <http://www.uidaho.edu/eo/dist1.html>.
- (n.d.). What is regionalization. Retrieved Mar 31, 2004 from <http://www.regionalization.org/Regionalization/Regionalization.html>.
- (n.d.). Learning styles. Retrieved Apr 24, 2004 from <http://www.ic.sunysb.edu/Stu/lasabati/est565-learning%20styles.htm>.
- (n.d.). What is organizational learning? Retrieved Apr 14, 2004 from <http://www.pegasus.com/aboutol.html>.
- (n.d.). Healthcare system management (HSM) training programs. Retrieved May 7, 2003 from [http://www.vasthcs.med.va.gov/ghatp/Background\(p1B\).htm](http://www.vasthcs.med.va.gov/ghatp/Background(p1B).htm).
- (n.d.). Medical and health services managers. Retrieved Aug 7, 2003 from <http://stats.bls.gov/oco/ocos014.htm>.
- (n.d.). Health services managers. Retrieved May 13, 2003 from [http://www2.jobtrak.com/help\\_manuals/outlook/ocos014.html](http://www2.jobtrak.com/help_manuals/outlook/ocos014.html).
- (n.d.). NHSU Draft Strategic Plan 2003-2008. Retrieved July 7, 2004 from <http://www.nhsu.nhs.uk/webportal/aboutus/strategy.jsp>.
- (n.d.). Introduction to research methods. Retrieved Aug 19, 2004 from <http://faculty.ncwc.edu/jchristensen/POL308/308lecturenotes01.htm>.
- (n.d.). The qualitative/quantitative debate. Retrieved Aug 16, 2004 from <http://writing.colostate.edu/references/research/observe/com2d3.cfm>.

- (1987). Higher level distance education: perspectives for international cooperation and new developments in technology. Victoria, Australia, A UNESCO Deakin University Co-Publication.
- (1994). Executives: get real about reengineering. *Training & Development*: 11-12.
- (1996). Learning with software. Retrieved Sept 4, 2003 from <http://www.educationau.edu.au/archives/CP/02.htm>.
- (1996). Thriving in the new economy. Retrieved Mar 1, 2003 from [http://www.une.edu.ve/~jmartine/the-digital\\_economy.htm](http://www.une.edu.ve/~jmartine/the-digital_economy.htm).
- (1996). Learning with software: pedagogies and practice. Retrieved Sept. 4, 2003 from <http://www.educationau.edu.au/archives/CP/02.htm>.
- (1996). AIHA launches health management education partnerships. Retrieved June 26, 2003 from <http://www.aiha.com/english/pubs/win96/newcee.cfm>.
- (1997). The case study as a research method. Retrieved June 17, 2003 from <http://www.gslis.utexas.edu/~ssoy/usesusers/1391b.html>.
- (1997). Occupational outlook handbook 1996-97: health services managers. Retrieved April 9, 2003 from <http://www.umsl.edu/services/govdocs/ooh9697/47.htm>.
- (1997). What is a survey? Alexandria, American Statistical Association.
- (1998). How learning is changing: information and communications across Europe, British Educational Communications and Technology Agency.
- (1998). Response to the West report, June 1998 by the Australian Academy of Science and the Australian Academy of Technological Sciences & Engineering. Retrieved Jan 26 2004 from <http://www.science.org.au/academy/media/west3.htm>.
- (1998). Virtual course design for educators and trainers. Ottawa, Canada, Ryerson Polytechnic University with a grant from The Office of Learning Technologies.
- (1998). The documented need for health management training in South Africa. Retrieved May 7, 2003 from <http://www.hst.org.za/sahr/98/Training/document.htm>.
- (1998). Competency-based management training: using advanced learning technologies. Kamloops, B.C., University College of the Cariboo.
- (1998). Lifelong learning. Retrieved June 8, 2005 from <http://www.scotland.gov.uk/learningtogether/leto-06.htm>.
- (1999). Knowledge management: big challenges, big rewards. Retrieved Aug 6, 2003 from [http://www.cio.com/sponsors/091599\\_km\\_1.html](http://www.cio.com/sponsors/091599_km_1.html).
- (1999). Regionalization in Canada. Saskatoon, Saskatchewan, Regionalization Research Centre.

- (1999). Computer-based adult learning technologies, Human Resources Development Canada. Office of Learning Technologies.
- (1999). The European higher education area: Joint declaration of the European Ministers of Education. Retrieved Jan 30, 2005 from [http://www.cepes.ro/information\\_services/sources/on\\_line/bologna.htm](http://www.cepes.ro/information_services/sources/on_line/bologna.htm).
- (2000). The business of borderless education in brief, Department of Education Training & Youth Affairs. Australia.
- (2000). Fight globalization of health industry! Retrieved June 28 2003 from <http://phmovement.org/pha2000/dailyalert/dailyalert2.html>.
- (2000). Developing a distance education policy for 21st century learning. Retrieved Oct 8, 2003 from [http://www.acenet.edu/washington/distance\\_ed/2000/03march/distance\\_ed.html](http://www.acenet.edu/washington/distance_ed/2000/03march/distance_ed.html).
- (2000). Lifelong learning in the twenty-first century: the changing roles of educational personnel. Geneva, International Labour Office.
- (2000). The challenges of global education. Retrieved Oct 27, 2003 from <http://www.scoop.co.nz/mason/stories/ED0009/S00006.htm>.
- (2000). Analysing issues for health in 2015: rising public expectations. Retrieved July 15, 2003 from <http://www.archive.official-documents.co.uk/document/nuffield/policyf/r2k-p2.htm>.
- (2000). A scan of the health care environment., Prepared by Assessment Strategies Inc. for the Canadian Alliance of Physiotherapy Regulatory Boards.
- (2001). ICT@Europe.edu: information and communication technology in European education systems. Brussels, Eurydice, The Information Network on Education in Europe.
- (2001). Unisys: Unisys University VP addresses Washington legislators on benefits of e-learning. *M2 Presswire*. 1-2.
- (2001). Forces for change: implications of the knowledge economy. Retrieved Oct. 6 2003 from <http://www.scottishpolicynet.org.uk/scf/publications/paper18/chapter1.shtml>.
- (2001). There are solutions: lets get on with the job of health system change. Retrieved Aug 27, 2003 from <http://www.cha.ca/documents/jan25.html>.
- (2001). The leadership imperative. Ottawa, Canadian College of Health Service Executives.
- (2001). National summit meeting breaks new ground and builds new bridges, Association of University Programs in Health Administration: 19.
- (2001). A vision of e-learning for America's workforce: Report of the Commission on Technology and Adult Learning, American Society for Training and Development (ASTD) and the National Governors Association (NGA).
- (2001). Brookes online market study: technology-enhanced off-campus programmes. Retrieved April 14, 2003 from <http://www.brookes.ac.uk/research/odl/OBOL%20Market%20Study%20appendix.htm>.

- (2001). Global networked readiness for education project. Retrieved Dec 3, 2004 from [http://www.worldbank.org/wbi/ictforeducation/policymakers/html/pol\\_ereadiness.html](http://www.worldbank.org/wbi/ictforeducation/policymakers/html/pol_ereadiness.html).
- (2001). Do we have a shortage of health professionals?, Premier's Advisory Council on Health, Alberta, Canada.
- (2001). Health care in Canada survey: a national survey of health care providers, managers and the public. Prepared by the Coalition of National Voluntary Organizations, The Canadian Association for Community Care, The Canadian Home Care Association, The Canadian Medical Association and the Canadian Nurses Association.
- (2001). Birth of the Chaordic Age in healthcare. California Medical Association Fifth Annual Leadership Academy. Creating the Future of Health Care, La Quinta, California.
- (2001). An evaluation of the use of personal digital assistants for reading course materials on H802: final report, Institute of Educational Technology (IET), Open University UK.
- (2001). The third shift: women learning online. Retrieved Aug 7, 2005 from <http://www.aauw.org/research/3rdshift.cfm>.
- (2001). Making a European area of lifelong learning a reality. Brussels, Commission of the European communities.
- (2002). Two decades of reform in higher education in Europe: 1980 onwards. Brussels, Eurydice European Unit.
- (2002). Eurydice: the information network on education in Europe . Retrieved Feb 17, 2003 from: [http://www.eurydice.org/NavBar/en/navbar\\_en.html](http://www.eurydice.org/NavBar/en/navbar_en.html)
- (2002). Europe's learning business. *The Economist*: 1-2.
- (2002). UK government: Plans for the 'university for the NHS'. *M2 Presswire* (1-3).
- (2002). Moving inside the virtual classroom: The internet has helped bring learning to the desktop. Is this the end of the line for instructor-led training? *Financial Times*, London: 6-9.
- (2002). The growth of the corporate university. *Training Strategies for Tomorrow* 16: 16-18.
- (2002). Corporate learning primer: an industry overview. Knowledge Dynamics Inc.
- (2002). Health care in Canada. Ottawa, Canadian Institute for Health Information.
- (2002). Annual report on Canada's progress-2002 (ICA), Government On-Line. Government of Canada. Ottawa.
- (2002). Can private managers help the NHS? Retrieved July 7, 2003 from [http://news/bbc.co.uk/1/low/in\\_depth/uk/2002/your\\_nhs/talking\\_point/182086.stm](http://news/bbc.co.uk/1/low/in_depth/uk/2002/your_nhs/talking_point/182086.stm).
- (2002). Improving the healthcare system through the use of information technologies. Retrieved May 16, 2003 from <http://www.ieeeusa.org/forum/POSITIONS/healthcareinfotech.html>.

- (2002). Health care expert says the system is broken. Retrieved May 14, 2003 from [http://www.asq.org/news/interest/120502\\_healthcare.html](http://www.asq.org/news/interest/120502_healthcare.html).
- (2002). Canada's health care system at a glance. Retrieved May 7, 2004 from [http://www.hc-sc.gc.ca/english/media/releases/2002/health\\_act/glance.html](http://www.hc-sc.gc.ca/english/media/releases/2002/health_act/glance.html).
- (2002). A responsible, sustainable, publicly funded health system in Canada: the art of the possible. Ottawa, Canadian Healthcare Association.
- (2002). AGORA V: identification, evaluation and recognition of non-formal learning- Cedefop Panorama series:45. Thessaloniki, Office for Official Publications of the European Communities.
- (2002). E-learning at Trinity College. Dublin, Trinity College publication.
- (2003). Seven steps to reform. *New Zealand Management* 50(1): 14-16.
- (2003). Learning architecture framework, Ministerial Council on Education, Employment, Training & Youth Affairs (MCEETYA)-Australia & New Zealand.
- (2003). The new national dream: networking the nation for broadband access. Ottawa, Government of Canada.
- (2003). Universitas 21 global-world-class e-university opens for student registration. Retrieved Feb 15 2004 from [http://www.businesswire.com/cgi-bin/cb\\_headline.cgi?story\\_file=bw.052803/23148526...](http://www.businesswire.com/cgi-bin/cb_headline.cgi?story_file=bw.052803/23148526...)
- (2003). A virtual university for small states of the Commonwealth. 15th Conference of Commonwealth Education Ministers, Edinburgh, Scotland, Commonwealth of Learning.
- (2003). Going the simulation way: Q&A with Clark Aldrich. Retrieved Feb 29, 2004 from <http://www.elearningpost.com/features/archives/002199.asp>.
- (2003). SchoolNet. Retrieved Feb 20, 2002 from <http://www.thecanadianencyclopedia.com/PrinterFriendly.cfm?ArticleId=J0011307>.
- (2003). Business Education. Retrieved Feb 20, 2002 from <http://www.thecanadianencyclopedia.com/PrinterFriendly.cfm?ArticleId=J0001131>.
- (2003). Report on the Canarie mini-summit on learning object repository implementation. Retrieved Mar 17, 2004 from <http://online.bcit.ca/sidebars/04january/inside-out-2.htm>.
- (2003). Health care in Canada, Canadian Institute for Health Information.
- (2003). Interior Health Authority emotional intelligence competency profile. Kelowna.
- (2003). Regionalization: where has all the power gone? Newsletter: Canadian Centre for Analysis of regionalization and Health- a survey of Canadian decision makers in health care regionalization. Saskatooon, Saskatchewan.
- (2003). The changing face of regionalization in Canada: recent changes and what to watch for. Newsletter: Canadian Centre of Analysis of Regionalization and health. Saskatooon, Saskatchewan.



- (2003). Health service reform programme (Ireland). Retrieved Jan 5, 2004 from <http://www.finance.gov.ie/viewdpc.asp?DocID=167>.
- (2003). A suitable case for treatment, Economist.com: Global Executive.
- (2003). The old parliament house blueprint for health reform, Australian Health Care Summit.
- (2003). Ministers deadlock lets down patients & providers: health summit planned. Australian Health Reform Alliance Medic Release. Canberra.
- (2003). Learning for everyone: a development plan for NHSU, National Health Services (UK).
- (2003). What is lifelong learning? Retrieved Dec 15, 2004 from [http://europa.eu.int/comm/education/policies/lifelong/what\\_islifelong.html](http://europa.eu.int/comm/education/policies/lifelong/what_islifelong.html).
- (2003). Case studies. Retrieved September 4, 2003 from <http://writing.colostate.edu/references/research/casestudy/com2b1.cfm>.
- (2003). Trustworthiness of the research. Retrieved Mar 5, 2005 from <http://herkules oulu.fi/isbn9514272463/html/x321.html>.
- (2003). Middle managers make a difference. Retrieved Apr 6, 2005 from [http://conferenceboard.ca/press/2003/middle\\_managers.asp](http://conferenceboard.ca/press/2003/middle_managers.asp).
- (2003). Method: single or multi-modal? Retrieved Sept 4, 2003 from <http://writing.colostate.edu/references/research/casestudy/pop3a.cfm>.
- (2003). Professor Bob Fryer outlines his views on health education. Retrieved June 23, 2005 from <http://www.ifslearning.com/news/archive/newsrelease03/bobfryer.htm>.
- (2003). Learning for life: adults go back to school, Canadian Health Network. Public Health Agency of Canada.
- (2003). Guidelines to inform the development of e-learning in the NHS: a research study by the University of Salford. Wigan, NHS Information Authority.
- (2003). What is regionalization. Retrieved September 21, 2005 from <http://www.regionalization.org/Regionalization/Regionalization.html>.
- (2004). Premier's technology council: 5th report. Vancouver, BC, Canada, Premier's Technology Council.
- (2004). New Zealand universities to set standards for tertiary e-learning. Retrieved Mar 2, 2004 from <http://www.elearninghouse.com/clearinghouse/news/details.xsp?key=226>.
- (2004). Health care today and tomorrow. Retrieved April 1, 2004 from <http://www.healthservices.gov.bc.ca/bchealthcare/>.
- (2004). The Baptist University. Retrieved July 7, 2004 from <http://www.baptisyoneword.org/aboutbap/university/Idvclasses.html>.

- (2004). Challenging health care system sustainability: understanding health system performance of leading countries, The Conference Board of Canada.
- (2004). Retirement crisis in health care much larger than nursing. Retrieved Mar 29, 2005 from <http://www.nupge.ca/CHPS/CHPS-dec16-04.htm>.
- (2004). Nursing workforce getting older: one in three Canadian nurses is 50 or older. Retrieved Mar 29, 2005 from [http://secure.cihi.ca/cihiweb/disPage.jsp?cw\\_page=media\\_14dec2004\\_e](http://secure.cihi.ca/cihiweb/disPage.jsp?cw_page=media_14dec2004_e).
- (2004). Selecting and implementing a Virtual Learning Environment (VLE). A joint report of the NHSU and the NHS Strategic Health Authorities.
- (2004). Quarterly course schedule of the University of Chicago Hospitals. Chicago, University of Chicago Hospitals.
- (2004). Personal digital assistants: PDAs as learning tools. Retrieved Aug 8, 2005 from [http://www.chin.gc.ca/English/Digital\\_Content/Tip\\_Sheets/Pda/tip\\_sheet14.html](http://www.chin.gc.ca/English/Digital_Content/Tip_Sheets/Pda/tip_sheet14.html).
- (2004). Results of the Fall CALS mobile learning survey, College of Agriculture and Life Sciences, North Carolina State University.
- (2004). On-line vs classroom learning. Retrieved July 18, 2005 from <http://www.itweb.co.za/sections/QuickPrint/Print.asp?StoryID=149741>.
- (2004). Canada health act. Retrieved Oct 25, 2005 from [http://www.hc-sc.gc.ca/hcs-sss/medi-assur/fedrole/cha-lcs/index\\_e.html](http://www.hc-sc.gc.ca/hcs-sss/medi-assur/fedrole/cha-lcs/index_e.html).
- (2005). Guide to implementing a virtual learning environment. Retrieved May 4, 2005 from <http://www.informatics.nhs.uk/cgi-bin/item.cgi?id=934&d=pndpr&h=pnhpr&f=pnfpr>.
- (2005). Towards a unified e-learning strategy. Retrieved May 8, 2005 from [http://www.cipd.co.uk/about/\\_unielnstrg.htm](http://www.cipd.co.uk/about/_unielnstrg.htm).
- (2005). An e-learning strategy of the North West NHS, Cheshire & Merseyside, Cumbria & Lancashire, and Greater Manchester Workforce Development Confederations.
- (2005). Summary report national stakeholders' workshop situational analysis of human resources and skill needs of Canada's health executive/management sector. Ottawa, The Canadian College of Health Service Executives in partnership with The Academy of Executive Nurses, The Canadian Society of Physician Executives and Human Resources Skills Development Canada.
- (2005). MBA applicants are MIA. Retrieved March 15, 2005 from [http://www.buisnessweek.com/magazine/content/05\\_16/b3929038\\_mz011.htm](http://www.buisnessweek.com/magazine/content/05_16/b3929038_mz011.htm).
- Allen, M. (1999). Don't be a troll! Using the Internet for successful higher education. Retrieved July 7, 2002 from: [allenm@spectrum.curtin.edu.c.au](mailto:allenm@spectrum.curtin.edu.c.au).
- Allen, M. (2001). Reviewing Internet censorship in Australia. Retrieved July 28, 2002 from: [m.allen@curtin.edu.au](mailto:m.allen@curtin.edu.au).

- Allen, M. (2001). "The copy: theorizing the Internet through virtuality. Retrieved July 28, 2002 from: [m.allen@curtin.edu.au](mailto:m.allen@curtin.edu.au) [2002, July 28]."
- Allen, M. (2001). From classes to communities: Internet-based learning, time-space, and individual-group identity. *Advanced Internet for Business and Education*, L'Acquila, Italy.
- Allen, M. (2002). To be or not to be? Questions of computer-mediated learning and distance education. Retrieved July 7, 2002 from: <http://www.curtin.edu.au/learn/DSM/examples/4.html>.
- Allen, M. (2002). ARROW: On target with the worldwide web. Retrieved July 10, 2002 from: <http://www.curtin.edu.au/learn/unit/10846/moreinfo/article1.htm>.
- Allen, M. (2002). Constructing 'good' internet-based learning. Retrieved July 10, 2002 from: <http://www.curtin.edu.au/home/allen/we3>.
- Allen, M. (2002). Ethics in the media. (Online). Retrieved July 10, 2002 from : [m.allen@curtin.edu.au](mailto:m.allen@curtin.edu.au).
- Allen, M. (2002). From classes to communities: Internet-based learning, time-space, and individual-group identity. Retrieved July 10, 2002 from : [m.allen@curtin.edu.au](mailto:m.allen@curtin.edu.au).
- Amburgey, T. I. and H. Rao (1996). Organizational ecology: past, present and the future directions. *Academy of Management Journal* 39(5): 1265-1287.
- Anderson, A. A. (n.d.). Downsizing and the meaning of work. Retrieved Mar 16, 2003 from <http://roger.babson.edu/ethics/downsizi.html>.
- Anderson, J. S. (2002). A historical overview of telecommunications in the health care industry. Retrieved Sept. 10, 2002 from: <http://www.ed.psu.edu/acsde/readings/annRead8abstracts.asp>.
- Anderson, L. (2002). Wave of applicants jostle for places: But schools need to sharpen up if they are to keep their place on the world stage. *Financial Times*: 2-5.
- Anderson, L. (2002). Leadership training 'needs to improve': Skills development: UK schools are criticised in a new report for failing to compete at the highest level. *Financial Times* 2002: 14-17.
- Anderson, R. (n.d.). Gender and computers-the present. Retrieved Aug 3, 2005 from <http://www.ucalgary.ca/~dabrent/380/webproj/raelyn.html>.
- Anderson, R. E. and E. S. Kasl (1982). The costs and financing of adult education and training. Toronto, Lexington Books.
- Anderson, T. Why interactivity is important for learning. Retrieved Oct 31, 2003 from [http://www.atl.ualberta.ca/articles/disted/interact\\_options.cfm](http://www.atl.ualberta.ca/articles/disted/interact_options.cfm).
- Anderson, T. (1994). Alternative media for education delivery. Retrieved Oct 4, 2002 from [http://www.atl.ualberta.ca/articles/disted/alt\\_media.cfm](http://www.atl.ualberta.ca/articles/disted/alt_media.cfm).

Aoki, K. and D. Pogroszewski (1998). Virtual university reference model: a guide to delivering education and support services to the distance learner. *Online Journal of Distance Learning Administration* 1(3).

Appelbaum, S. H. (1997). Literature review on corporate downsizing. Retrieved Nov 11, 2003 from <http://pages.infnit.net/rodrigo/downsizing.html>.

Appelbaum, S. H., S. Lavigne-Schmidt, et al. (1999). Downsizing: measuring the costs of failure. *Journal of Management Development* 18: 436-463.

Arbaugh, J. B. (2002). Managing the on-line classroom- A study of technological and behavioral characteristics of web-based MBA courses. *Journal of High Technology Management Research* 13 (2): 203-223.

Arbaugh, J. B. and R. Duray (2002). Technological and structural characteristics, student learning and satisfaction with web-based courses: An exploratory study of two on-line MBA programs. *Management Learning* 33 (3): 331-347.

Archer, T. M. (2003). Web-based surveys. Retrieved Mar 10, 2005 from <http://www.joe.org/joe/2003august/tt6/shtml>.

Armstrong, J. and J. Duffy Government downsizing. Retrieved June 30, 2003 from <http://www.mgmt.dal.ca/sba/profs/jduffy/GvtDwn/Article1.htm>.

Armstrong, R., F. W. H. Brunelle, et al. (2000). The changing role of Canadian healthcare CEOs: results of a national survey. Ottawa, Canadian College of Health Service Executives.

Arnone, M. (2002). Fathorn adds training to distance education offerings. Retrieved Aug 26, 2002 from : [http://web12.epnet.com/citation.asp?tb=1&\\_ug=dbs+1+ln+en%2Dus+sid+FC18DB2E%2](http://web12.epnet.com/citation.asp?tb=1&_ug=dbs+1+ln+en%2Dus+sid+FC18DB2E%2).

Arsham, H. (1996). Interactive education: impact of the Internet on learning and teaching. Retrieved July 17, 2003 from <http://ubmail.ubalt.edu/~harsham/interactive.htm>.

Arsham, H. (2002). Impact of the Internet on learning and teaching. *USDLA Journal* 16 (3): 1-17.

Ashkenas, R., D. Ulrich, et al. (1995). Breaking the chains of organizational structure. San Francisco, Jossey-Bass Publications.

Atack, L. I. (2001). Web-based continuing education for registered nurses: Clinical application and learners' experiences, University of Calgary (Canada)

Bacal, R. (2002). Downsizing-the long term effects. Retrieved May 12, 2003 from <http://www.work911.com/articles/downsizinglongterm.htm>.

Bahle, T. (2003). The changing institutionalization of social services in England and Wales, France and Germany: is the welfare state on the retreat? *Journal of European Social Policy* 13(1): 5-20.

Bak, P. (1996). How nature works: The science of self-organized creativity. New York, Springer-Verlag New York Inc.

- Balka, E. (2004). Pathways to learning at work: technology enhanced learning in healthcare. Burnaby, BC, Simon Fraser University.
- Ball, M. W. (1999). 'Jack be nimble, Jack be quick...' How managers experience and adapt to complexity and uncertainty, The Fielding Institute.
- Balstone, G. (2003). The role of distance learning in NHSU. Retrieved June 21, 2005 from [www.cilip.org.uk/professionalguidance/lobbying/consultation2003/nhsu/nhsu2.htm](http://www.cilip.org.uk/professionalguidance/lobbying/consultation2003/nhsu/nhsu2.htm).
- Barnes, T. M. (1998). Throw technology at it! Retrieved Sept 12, 2003 from <http://www4.ncsu.edu/~tmbarnes/eng519/article/>.
- Barnett, W. P., G. R. Carroll, et al. (2002). The life cycle of business is studied through organization ecology. Retrieved Apr 23, 2003 from: [http://www.gsb.stanford.edu/news/research/ob\\_ecology.shtml](http://www.gsb.stanford.edu/news/research/ob_ecology.shtml).
- Barrett, R. (2003). Organizational transformation: liberating the corporate soul. Retrieved Apr 13, 2004 from <http://www.bizspirit.com/bsj/archive/articles/barrett1.html>.
- Beamish, N., C. Armistead, et al. (2002). The deployment of e-learning in UK/European corporate organizations. *European Business Journal*, London 14(3): 105-116.
- Beck, N. (2005). Knowledge industries. Retrieved July 7, 2005 from <http://www.gov.ns.ca/finance/stats.div/papers/know/c4.htm>.
- Beckett, D., Z. Agashae, et al. (2002). Just-in-time training: Techne meets phronesis. *Journal of Workplace Learning* 14(7/8): 332-339.
- Begun, J. W. and A. A. Kaissi (2004). Uncertainty in health care environments: myth or reality? *Health Care Management Review* 29(1): 31-40.
- Beller, M. and E. Or (n.d.). The crossroads between lifelong learning and information technology: A challenge facing leading universities. Retrieved May 5, 2003 from <http://www.ascusc.org/jcmc/vol4/issue2/beller.html>.
- Bennis, W., W. W. Burke, et al. (2003). What lies ahead. *American Society for Training and Development*. 57: 32-43.
- Berge, Z. L. (2003). Barriers to elearning. Fourth Annual Irish Educational Technology Users Conference, Waterford, Ireland.
- Bernath, U., A. Kleinschmidt, et al. (n.d.). Challenges for study centers in an electronic age- a case study of the center for distance education at Carl von Ossietzky University of Oldenburg in Germany.
- Bird, J. and C. Morgan (2003). Adults contemplating university study at a distance: issues, themes and concerns. Retrieved Feb 15, 2004 from [http://www.irrodl.org/content/v4.1/bird\\_morgan.html](http://www.irrodl.org/content/v4.1/bird_morgan.html).
- Birdsall, W. F. (2000). The digital divide in the liberal state: a Canadian perspective. Retrieved Nov 19, 2003 from [http://www.firstmonday.dk/issues/issue5\\_12/birdsall/](http://www.firstmonday.dk/issues/issue5_12/birdsall/).

- Blackmore, J. (1996). Learning styles: adult learning styles. Retrieved Apr 24, 2004 from <http://www.cyg.net/~jblackmo/diglib/styl-c.html>.
- Blackmore, J. (2001). Universities in crisis? Knowledge economies, emancipatory pedagogies, and the critical intellectual. *Educational Theory* 51(3): 353-365.
- Blagg, D. and S. Young (2001). What makes a good leader? Retrieved Nov 5, 2004 from <http://hbswk.hbs.edu/item.jhtml?id=2141&t=leadership&noseek=one>.
- Blumenstyk, G. and B. McMurtrie (2000). Educators lament a corporate takeover of international accreditation. *Chronicle of Higher Education* 47(9): A55-A58.
- Bober, C. F. (2000). Utilization of corporate university training program evaluation, University of Illinois at Urbana-Champaign.
- Bolden, R. and J. Gosling (2004). Leadership and management competencies: lessons from the National Occupational Standards. SAM/IFSAM VIIth World Congress: Management in a World of Diversity and Change, Goteborg, Sweden.
- Bonk, C. J. (2002). Online training in an online world. Retrieved Oct 9, 2003 from [http://www.usdla.org/html/journal/MAR02\\_Issue/article02.html](http://www.usdla.org/html/journal/MAR02_Issue/article02.html).
- Booth, R. and T. L. Smith (1995). Downsizing: case study of a career in crisis. *Journal of Employment Counseling* 32: 115-131.
- Bosnjak, M. and T. L. Titen (2001). Classifying response behaviours in web-based surveys. *Journal of Computer-Mediated Communication* 6 (3).
- Boychuk, G. W. (2002). The changing political and economic environment of health care in Canada, Commission on the Future of Health Care in Canada, Ottawa.
- Bozionelos, N. (2001). Organizational downsizing and career development. *Career Development International* 6: 87-92.
- Brandenburg, D. C. and A. D. Ellinger (2003). The future: just-in-time learning expectations and potential implications for human resource development. *Advances in Developing Human Resources* 5 (3): 308-320.
- Bridges, W. (1991). *Managing transitions: making the most of change*. Reading, Ma., Addison-Wesley Publisher.
- Briggs, B. (2003). CIOs double as change agents. *Health Data Management*.
- Briscoe, D., G. Dickson, et al. (2005). *Leadership without ownership: developing strategic leadership for health reform*. Victoria, B.C., Royal Roads University.
- Broad, M. L. and J. W. Newstrom (1992). *Transfer of training: action-packed strategies to ensure high payoff from training investments*. Don Mills, Ontario, Addison-Wesley Publishing Company.
- Broadbent, B. (2002). Selecting training to deliver in an e-learning mode. Retrieved Aug 11, 2005 from [http://www.e-learninghub.com/articles/selecting\\_training.html](http://www.e-learninghub.com/articles/selecting_training.html).

- Brookfield, S. (1995). Adult learning: an overview. Retrieved Dec 10, 2003 from <http://nl.nl.edu/ace/Resources/Documents/AdultLearning.html>.
- Broome, J. (2003). Holy random leadership. Retrieved Apr 13, 2004 from <http://www.bizspirit.com/bsj/archive/articles/broome1.html>.
- Brown, A. R. and B. D. Voltz (2005). Elements of effective e-learning design. *International Review of Research in Open and Distance Learning* (March 2005).
- Brun-Rovet, M. and J. Kelly (2002). Business schools 'failing to develop leadership: Management education report finds the sector stronger on teaching theory than applicable skills. *Financial Times* (London): 6-7.
- Buckingham, M. (2001). Don't waste your money: competency programs are well-intentioned, but ineffective. Retrieved July 19, 2005 from <http://gmj.gallup.com/content/default.asp?ci=259>.
- Bueckert, D. (2005). Door widens to two-tier health. *Times Colonist*. Victoria, British Columbia: 1.
- Burk, Mike. (1999). Knowledge management: everyone benefits by sharing information. Retrieved Oct 11, 2006 from <http://www.tfhr.gov/pubrds/novdec99/km.htm>.
- Byrne, R. (2002). Web-based learning versus traditional management development methods. *Singapore Management Review* 24 (2): 59-68.
- Camino, L. and K. Heidrich (2003). Six keys to successful nonprofit-academic collaboration: Results of a study. *Nonprofit World* 21(1): 22-24.
- Capra, F. (1996). *The web of life*. New York, Doubleday.
- Carey, T., C. Farber, et al. (1998). Effectiveness of learning technologies: the costs and effectiveness of technology-based approaches to teaching and learning., University of Guelph, University of Western Ontario & the University of Toronto: 110.
- Carnevale, D. (2002). Accreditors offer views on distance programs. *Chronicle of Higher Education* 48(37): A36.
- Carnevale, M., S. Berestka, et al. (1998). Are academic institutions reshaping reengineering? Retrieved Mar 17, 2003 from: <http://www.educause.edu/ir/library/html/cnc9863/cnc9863.html> [2003, Mar 17].
- Carr, S. (2001). Is anyone making money on distance education?: colleges struggle to figure out how much they are spending on online programs. *The Chronicle of Higher Education*.
- Casebeer, A. L. and M. J. Verhoef (1997). Combining qualitative and quantitative research methods: considering the possibilities for enhancing the study of chronic diseases. *Chronic Diseases in Canada* 18(3).
- Castells, M. (1996). *The rise of the network society*. Malden, Blackwell Publishers Inc.

- Castillo, D. D. (2002). Commonwealth nations back a plan for a virtual university to serve smaller states. Retrieved Feb 15 2004 from <http://chronicle.com/free/2002/04/2002042301u.htm>.
- Champagne, F. (2002). The ability to manage change in health care organizations. Ottawa, Commission on the Future of Health Care in Canada.
- Chapman, D. (2004). Future indicators: research starts on next Capability Index. *Management* (Sept 2004): 22 & 23.
- Chappell, C. (n.d.). A look at qualitative research. Retrieved Aug 16, 2004 from <http://www.gsu.edu/~mstsw/courses/it7000/papers/alookat.htm>.
- Choy, D. G. (n.d.). Corporate downsizing and its effect on the organization. Retrieved Mar 16, 2003 from <http://www.depress.com/jmb/page22.html>.
- Chu, J. Y. M. (2002). A system engineering framework: Integrating the balance model to knowledge management across organizations, The University of Wisconsin -Madison:
- Chung, C.-S. (1990). Communication overload and managerial level: The impact of quantity, complexity and equivocality, State University of New York at Buffalo:
- Chyung, Y. (2002). Analyze motivation-hygiene factors and change. Retrieved Mar 4, 2003 from <http://coen.boisestate.edu/ychyung/onlinetraining.htm>.
- Clerk, J. (2002). In Australia, MBA offerings change with the times. Retrieved Oct 6, 2003 from <http://www.iht.com/articles/51856.html>.
- Clippinger, J. (2003). The biology of business. Retrieved Apr 13, 2004 from <http://www.bizspirit.com/bsj/archive/articles/clippinger1.html>.
- Coffey, E. (2002). Too much rhetoric in health-care debate. Retrieved May 7, 2004 from [http://www.iedm.org/library/art124\\_en.html](http://www.iedm.org/library/art124_en.html).
- Colvard, J. (2003). Managers vs leaders. Retrieved October 29, 2004 from <http://www.govexec.com/dailyfed/0703/070703ff.htm>.
- Colyer, A. (2002). Copyright law, the internet, and distance education. Retrieved Sept 15, 2002 from: <http://www.ed.psu.edu/acsde/readings/annRead7abstracts.asp>.
- Conner, M. L. (2003). Andragogy + pedagogy. Retrieved Dec 10, 2003 from <http://agelesslearner.com/intros/andragogy.html>.
- Conrad, D. (2002). Deep in the hearts of learners: insights into the nature of online community. Retrieved July 19, 2003 from <http://cade.icaap.org/vol17.1/conrad.html>.
- Coogle, C. L., I. A. Parham, et al. (2002). Evaluation of a distance learning course in geriatric interdisciplinary teaming. *Educational Gerontology* 28(9): 791-804.
- Cook, D. (2003). Paul Virilio: the politics of 'real time'. Retrieved Dec 11, 2003 from [http://www.ctheory.net/text\\_file.asp?pick=360](http://www.ctheory.net/text_file.asp?pick=360).
- Cook, J. (2001). JTAP-The role of Virtual Learning Environment in United Kingdom Medical Education, Institute of Learning and Research Technology. UK.



Cookson, P. S. (2000). Transformation of the academy, institutional co-evolution, and expansion of higher distance education: steering through the rapids. 2000 International Conference on Organization and management of Virtual University, National Chung Cheng University, Chiayi, Taiwan.

Cooper, C. D. Not just a numbers thing: tactics for improving reliability and validity in qualitative research., University of Southern California, Marshall School of Business, Department of Management & Organization.

Cork, L. (2003). Make the grade. *Works Management* 56(2): 26-30.

Crichton, A. (1985). Restructuring health services in Canada: challenges for policy makers, planners and managers in the eighties. *International Journal Health Planning Management* 1(1): 7-26.

Crowley, B. L. (2001). Health care system needs Swedish massage. Retrieved Mar 15 2004 from <http://www.aims.ca/Media/2001/prjun.htm>.

Cunningham, S., Y. Ryan, et al. (2000). The business of borderless education. Australia, Department of Education Training and Youth Affairs. Australia.

Curtain, R. (2001). Lifelong learning- what does it mean?, Information Age. Australia's IT Trends Review. Sydney.

Daniel, J. S. (1997). Mega-universities and knowledge media. London, Kogan Page Limited.

Danzon, P. M. Health care industry. Retrieved Nov 11, 2004 from <http://www.econlib.org.library/Enc/HealthCareIndustry.html>.

Darling, T. J. (2003). A student's eye-view of education's fall and decline. Retrieved Aug 16, 2003 from <http://edutruer.tripod.com/b-files/decline.html>.

Daub, M. and P. B. Buchan (2005). A history of Queen's School of Business. Retrieved Jan 30, 2005 from <http://buisness.queensu.ca/overview/history.htm>.

Davidson, A. R. (2000). Health care reform in British Columbia: dynamics without change?, The University of British Columbia (Canada).

Davis, A. (2001). Athabasca University: Conversion from traditional distance education to online courses, programs and services. Retrieved Apr 12, 2004 from <http://www.irrodl.org/content/v1.2/au/html>.

de Aristizabal, C. A. (2000). Connect or disconnect: An exploratory study of health professionals, competence and continuing education, Virginia Commonwealth University.

Dealtry, R. (2002). The real-time corporate university becomes a reality. *Journal of Workplace Learning* 14 (7/8): 340-348.

DeCarlo, C. R. and O. W. Robinson (1966). Education in business and industry. New York, The Center for Applied Research in Education Inc.

DeCastro, T. and S. Hansen (2003). Online learning survey. Vancouver, BC, Canada, Fraser Health Authority & Provincial Services Health Authority. Surrey.

- Deckard, G. J. (n.d.). Preparing managers for the US health care system: models for designing and accrediting quality curriculum. Retrieved Aug. 23 2003 from [unpan/un.org/intradoc/groups/public/documents/nispacee/unpan009229.pdf](http://unpan.un.org/intradoc/groups/public/documents/nispacee/unpan009229.pdf).
- Denning, Stephen (2000). Seven basics of knowledge management. Retrieved Oct 12, 2006 from [http://www.stevedenning.com/seven\\_basics.htm](http://www.stevedenning.com/seven_basics.htm).
- Dennis, D. (2003). The digital death rattle of the American middle class. Retrieved Dec 11, 2003 from [http://www.ctheory.net/text\\_asp?pick=402](http://www.ctheory.net/text_asp?pick=402).
- Dennis, J. (2002). A better workforce. (Submission to the Generational Health Review from the Australia College of Health Service Executives). Retrieved Oct 7, 2003 from <http://www.achse.org.au/sa/ghr.html>.
- DeVeaux, P. (2001). An interview with Jeanne Meister. Retrieved Mar 17, 2003 from [www.elearning.com](http://www.elearning.com).
- Dhanarajan, G. (2001). Changing expectations of global education: charting a new course. Retrieved June 28 2003 from [http://www.col.org/speeches/IDP\\_01.htm](http://www.col.org/speeches/IDP_01.htm).
- Dickson, G. (2004). Strategic leadership in Canadian health systems. The Developing Strategic Leaders for Health Reform Symposium, Royal Roads University, Victoria B.C.
- DiFrances, J. (n.d.). 10 compelling reasons not to downsize. Retrieved Nov 11, 2003 from [http://www.speaking.com/articles\\_html/JohnDiFrances\\_1059.html](http://www.speaking.com/articles_html/JohnDiFrances_1059.html).
- Dillenbourg, P. (2000). Virtual learning environments. Learning in the New Millennium, Copenhagen, Denmark.
- Dixon, P. (1999). Futurewise: six faces of global change. London, Harper Collins Publishers.
- Dodd, N. G., W. Brown, et al. (2002). Learning to manage while learning about management: A transition to a competency-based management curriculum. *Journal of Education for Business* 77(4): 189-192.
- Dooley, K. (2002). Organizational complexity. *International Encyclopedia of Business & Management*, M. Warner (ed.), London: Thompson Learning: 5013-5022.
- Douglas, M. (2003). E-volution at corporate u. *E-Learning* 4 (1): 36-41.
- Downes, S. (2001). Learning objects: resources for distance education worldwide. Retrieved April 22, 2003 from <http://www.irrodl.org/content/v2.1/downes.html>.
- Downes, S. (n.d.). The future of online learning. Retrieved Jan 4, 2003 from <http://www.westga.edu/~distance/downes13.html>.
- Dresner, M. (2005). Learning and development in health care: the challenges of a corporate university in a hospital setting. Corporate Universities International.
- Duke, C. (1992). The learning university: towards a new paradigm? Buckingham, Open University Press.

- Dupuis, L., S. Boucher, et al. (1996). Downsizing its effects on survivors. Retrieved May 12, 2003 from [http://www.psc-cfp.gc.ca/publications/monogra/mono4\\_e.htm](http://www.psc-cfp.gc.ca/publications/monogra/mono4_e.htm).
- Ebrahimpur, G. (2002). Changing in large firms: Aligning change and agility, Chalmers Tekniska Hogskola (Sweden).
- Edmonds, R. eLearning for a knowledge economy. Retrieved Aug 6, 2003 from <http://www.sric-bi.com/BIP/DLSS/DLS2253.shtml>.
- Edmonstone, J. and M. Havergal (1998). The third way: A new approach to management education in health care. *Health Manpower Management* 24: 33-37.
- Edrahimpur, G. (2002). Changing in large firms: Aligning change and agility, Chalmers Tekniska Hogskola (Sweden)
- Edwards, R. and R. Usher (2001). Lifelong learning: a postmodern condition of education. *Adult Education Quarterly* 51(4): 273-287.
- Ellis, K. (2002). Corporate U's : High value or hot air? *Training* 39(9): 60-64.
- Englund, R. L. Authentic leadership. Retrieved Apr 14, 2004 from <http://www.pegasus.com/levpoints/authenticlead.html>.
- Ess, C. t. A. e. w. c. (2002). Ethical decision-making and Internet research: recommendations from the AOIR ethics working committee, Association of Internet Researchers (AOIR).
- Eurich, N. P. (1985). Corporate classrooms: the learning business. Princeton, The Carnegie Foundation for the Advancement of Teaching.
- Evans, D. L. (2002). A nation online: how Americans are expanding their use of the Internet. Washington DC, US Department of Commerce.
- Fahy, P. J. (2003). Indicators of support in online interaction. Alberta, Canada, Athabasca University.
- Falk, C. (1999). Sentencing learners to life. Retrieved Dec 11, 2003 from [http://www.ctheory.net/text\\_file.asp?pick=113](http://www.ctheory.net/text_file.asp?pick=113).
- Farquhar, C. R. (1998). Middle managers are back: how companies have come to value their middle managers again: a report for the Public Service Commission of the Government of Canada, The Conference Board of Canada.
- Farrell, C. and J. Morris (2003). The 'non-bureaucratic' state: professionals, managers and professional managers in schools, general practices and social work. *Organization* 10(1): 129-156.
- Farrell, D. G. (1999). The development of virtual education: a global perspective. Retrieved Mar 13, 2003 from <http://www.col.org/virtualed/index.htm>.
- Farrell, D. G. M. E. (2001). The changing face of virtual education. Vancouver, Canada, The Commonwealth of Learning.

- Feenberg, A. (1999). Whither educational technology? Retrieved Nov 18, 2003 from <http://www-rohan.sdsu.edu/faculty/feenberg/peer4.html>.
- Felder, R. M. (1988). Learning and teaching styles in engineering education. *Engineering Education* 78 (7): 674-681.
- Felder, R. M. (1993). Reaching the second tier: learning and teaching styles in college science education. *J. College Science Teaching* 23(5): 286-290.
- Felder, R. M. and B. A. Soloman Learning styles and strategies. Retrieved Apr 24, 2004 from <http://www.ncsu.edu/felder-public/ILSdir/styles.htm>.
- Fender, S. B. (1999). The business of borderless education: UK Perspective, Higher Education Funding Council for England. London.
- Fenwick, D. C., J. R. Myers, et al. (1986). Guide to campus-business linkage programs. New York, MacMillan Publishing Co.
- Ferber, R., P. Sheatsley, et al. (1994). What is a survey? Retrieved June 20, 2003 from <http://149.170.199.144/resdesgn/survey3.htm>.
- Fidishun, D. Andragogy and technology: integrating adult learning theory as we teach with technology. Retrieved Dec 10, 2003 from <http://www.mtsu.edu/~itcom/proceed00/fidishun.htm>.
- Fine, D. J. (2002). Establishing competencies for healthcare managers. *Healthcare Executive* 17(2): 66-67.
- Fisher, S. (2001). Teaching and technology: promising directions for research on online learning and distance education in the selective institutions. Retrieved September 14, 2003 from <http://curry.edschool.virginia.edu/forprofit/SWP-05.htm>.
- Fisher, S. R. (2003). Computers and society. Retrieved Feb 20, 2002 from <http://www.thecanadianencyclopedia.com/PrinterFriendly.cfm?ArticleId=A0001828>.
- Fisk, M. (2000). Privatization by stealth: Canadian health care in crisis. Retrieved July 7, 2003 from <http://solidarity.igc.org/atc/85Fisk.html>.
- Fitzgerald, J. (1999). Who's afraid of small samples? Retrieved Aug 8, 2004 from <http://www.coolth.com/small.htm>.
- Fjortoft, N., L. Patton, et al. (2002). Academic dishonesty in distance education programs. Retrieved Sept 15, 2002 from : <http://www.ed.psu.edu/acsde/readings/annRead8abstracts.asp> [2002, Sept 15].
- Flower, J. (1993). The power of chaos. *Healthcare Forum Journal* Sept/Oct 1993: 48-55.
- Follows, S. B. (1999). Virtual learning environments. Retrieved May 4, 2005 from <http://www.thejournal.com/magazine/vault/articleprintversion.cfm?aid=2374>.
- Fong, T. (2003). Pointing fingers. *Modern Healthcare* 33(24): 8-10.

- Fooks, C. and S. Lewis (2002). Romanow and beyond: a primer on health reform issues in Canada (Discussion Paper). Ottawa, Canadian Policy Research Networks.
- Forest, J. J. F. (2002). Learning organizations: higher education institutions can work smarter too. *Higher Education* 17(2): 31 & 33.
- Frankola, K. (2001). Why online learners drop out. *Workforce* 80(10): 52-60.
- Freeman, M. (1999). Knowledge in a learning university: Collaborative, recursive and digital, The Union Institute.
- Freeman, R. (1998). Competition in context: the politics of health care reform in Europe. *International Journal for Quality in Health Care* 10(5): 395-401.
- Fressola, M. C. (1998). How nurse executives learned to become leaders, Columbia University Teachers College.
- Friedman, H. H. (2001). The obsolescence of academic departments. Retrieved Mar 3, 2003 from [http://radicalpedagogy.icaap.org/content/issue3\\_2/friedman.html](http://radicalpedagogy.icaap.org/content/issue3_2/friedman.html).
- Frydenberg, G. (1994). The impact of continuing professional education on job satisfaction, University of California, Los Angeles.
- Fryer, B. (2003). Continuing professional development: the contribution of e-learning. Retrieved June 20, 2005 from <http://www.britishcouncil.or.th/en/education/download-Fryer%20E%20learningthailand.pdf>.
- Fullan, M. (2001). Leading in a culture of change. San Francisco, John Wiley & Sons Inc.
- Fullen, M. (2001). The new meaning of educational change. New York, Teachers College Press.
- Fuller, C. (1998). Canada's health care crisis: more and more health care services being privatized. Retrieved May 7, 2004 from <http://www.policyalternatives.ca/publications/articles/article127.html>.
- Fuller, S., C. Fuller, et al. (2003). Health care restructuring in BC, Canadian Centre for Policy Alternatives -BC Office.
- Fyke, K. J. (2001). Caring for medicare: sustaining a quality system. Regina, Saskatchewan, Saskatchewan Commission on Medicare.
- Gadeken, O. C. (1997). Project managers as leaders: competencies of top performers. *Army RD & A Magazine*.
- Gaines, M. A. C. (2002). Educational infrastructure in an age of globalization: intelligent building, virtual facilities and virtual instruction? *Educational Forum* 67(1): 63-68.
- Galagan, P. A. (2001). Top 14 things CEOs should know about e-learning. Retrieved July 25, 2002 from: [http://www.findarticles.com/cfo/m4667/11\\_55/80542356/pl/article.jhtml?Virtual](http://www.findarticles.com/cfo/m4667/11_55/80542356/pl/article.jhtml?Virtual).
- Galbraith, K. (2002). European business schools expand their reach. *The Chronicle of Higher Education* 48: A40-A43.

- Gallagher, M. (2001). Online learning in a borderless market, Griffith University Gold Coast Campus.
- Garrison, R. (2000). Theoretical challenges for distance education in the 21st century: a shift from structural to transactional issues. Retrieved Apr 12, 2004 from <http://www.irrodl.org/content/v1.1/randy.html>.
- Garside, P. (1998). Organizational context for quality: lessons from the fields of organizational development and change management. *Quality in Health Care* 7 (Suppl): S8-S15.
- Garson, G. D. (n.d.). The role of technology in quality education. Retrieved Sept. 26, 2003 from <http://hcl.chass.ncsu.edu/sscore/gardon2.htm>.
- Gates, B. (1999). *Business @ the speed of thought*. New York, Warner Books Inc.
- Gates, B. (1999). Why the PC will not die. Retrieved Feb 27, 2003 from <http://www.microsoft.com/presspass/ofnote/05-31newsweek.asp>.
- Gates, B. (2003). Building trust in technology. Retrieved Feb 27, 2003 From <http://www.microsoft.com/presspass/ofnote/01-13davos.asp>.
- Gates, B. (2003). The disappearing computer. Retrieved Feb 27, 2003 from <http://www.microsoft.com/presspass/ofnote/11-02worldin2003.asp>.
- Gates, B. (2003). Shaping the Internet age. Retrieved Feb 27, 2003 from <http://www.microsoft.com/billgates/shapingtheinternet.asp>.
- Gee, R. and B. Cannon (n.d.). Corporate universities and management training in Europe. Retrieved Sept. 8, 2003 from <http://www.sric-bi.com/BIP/DLSS/DLS2222.shtml>.
- Gentile, M. C. and J. Samuelson (2003). The state of affairs for management education and social responsibility. AACSB International Deans Conference.
- Georgiadis, K. (1998). Interdisciplinarity and economic education: Foundation and design of a model program of integrative studies exploring the contemporary world economy, The Union Institute
- Giaimo, S. and P. Manow (1999). Adapting the welfare state: the case of health care reform in Britian, Germany and the United States. *Comparative Political Studies* 32 (8): 967-1000.
- Giokas, D. (2003). EHRs Blueprint: an interoperable EHR framework. Ottawa, Canada Health Infoway.
- Goldhaber, M. H. (1997). The attention economy and the net Retrieved July 23, 2002 from: [http://www.firstmonday.dk/issues/issue2\\_4/goldhaber/](http://www.firstmonday.dk/issues/issue2_4/goldhaber/) [2002, July 23].
- Goldhaber, M. H. (2000). The Napster revolution and the law. (Online) 10 pgs. Available at: [http://www.well.com/user/mgold/Napster\\_wars.html](http://www.well.com/user/mgold/Napster_wars.html) [2002, July 23]: 10.
- Gonick, L. (1996). Tales from the dark holes of cyberspace: the virtual seminar in global political economy. Retrieved Aug 26, 2002 from: [http://web12.epnet.com/citation.asp?tb=1&\\_ug=dbs+1+ln+en%2Dus+sid+FC18DB2E%2](http://web12.epnet.com/citation.asp?tb=1&_ug=dbs+1+ln+en%2Dus+sid+FC18DB2E%2) .

- Goodrick, E. (2002). From management as a vocation to management as a scientific activity: An institutional account. *Journal of Management* 28(5): 649-668.
- Goodwin, L. (2002). A vendor-free option for 'online' content delivery of a distance education course in nursing. Retrieved Sept 15, 2002 from: <http://www.ed.psu.edu/acsde/readings/annRead8abstracts.asp> .
- Gorki, P. (2003). Multicultural education and the digital divide. Retrieved Jan 3, 2004 from <http://www.mhhe.com/socscience/education/multi/philosophy/4divide/html>.
- Grantham, D. (2004). Frequently asked questions on virtual learning environments (VLEs). Retrieved May 4, 2005 from <http://www.ukcle.ac.uk/resources/vles/>.
- Green, H. (1998). A cyber revolt in health care. Retrieved May 16, 2003 from <http://www.businessweek.com/1998/42/b3600135.htm>.
- Grey, C. (2002). What are business schools for? On silence and voice in management education. *Journal of Management Education* 26(5): 496-511.
- Griffiths, R. (1997). Moving closer to learning vision. Retrieved Aug 26, 2002 from [http://web12.epnet.com/citation.asp?tb=1&\\_ug=db+1+ln+en%2Dus+sid+FC18B2E%2](http://web12.epnet.com/citation.asp?tb=1&_ug=db+1+ln+en%2Dus+sid+FC18B2E%2).
- Grodsky, T. M. History of management thought. Retrieved Jan 8, 2003 from <http://polaris.umuc.edu/~tgrodsky/admin601/managethought.html>.
- Gruber, H.-G. (2000). Does organizational culture affect the sharing of knowledge? The case of a department in a high-technology company. Ottawa, Carleton University (Canada).
- Guest, G. (1999). Towards lifelong professional learning. *Adults Learning* 11(4): 23-26.
- Guest, S. and J. Juday (2001). Guidelines for buying e-learning services. Retrieved Aug 3, 2005 from <http://www.learningcircuits.org/2001/nov2001/guest.html>.
- Guion, L. A. (2002). Triangulation: establishing the validity of qualitative studies., University of Florida Extension Institute of Food and Agricultural Sciences.
- Gundy, J. (2003). How flexible is e-learning? Retrieved Aug 3, 2005 from <http://www.knowab.co.uk/elflexible.html>.
- Gurteen, D. (1999). Creating a knowledge sharing culture. *Knowledge Management Magazine* 2(5).
- Gustafson, K. L. and L. Schrum Looking before, during, and after you leap: cost analysis and return on investment (ROI) for distance education. Retrieved Mar 4, 2003 from <http://itech.coe.uga.edu/~kgustafs/edit7550/ROIDE.html>, University of Georgia.
- Gutierrez-Diaz, M. (2001). Corporate universities in Europe. Prometeus.
- Haigh, M. The many faces of case study research. Retrieved June 20, 2003 from <http://www.ace.ac.nz/learning/science/articles/a5.asp>.
- Hall, E. A., J. Rosenthal, et al. (1994). How to make reengineering really work. *The McKinsey Quarterly* (2): 107-128.

Halsne, A. M. and L. A. Gatta (2002). Online versus traditionally-delivered instruction: a descriptive study of learner characteristics in a community college setting. *Online Journal of Distance Learning Administration* V(1).

Hamman, R. (1997). Online education: a paper about the need for and application of Internet based education in distance education and classroom based learning. Retrieved July 25, 2003 from <http://www.socio.demon.co.uk/online-ed.html>.

Harasim, L., S. R. Hiltz, et al. (1995). Learning networks: a field guide to teaching and learning online. London, The MIT Press.

Harrington, B. (2002). Strictly business: the world's knowledge base keeps growing. Retrieved Aug 6, 2003 from [http://www.amarillonet.com/stories/080102/bus\\_bj080102-16shtml](http://www.amarillonet.com/stories/080102/bus_bj080102-16shtml).

Harris, M. G., J. Maddern, et al. (1998). Changing roles and careers of health service managers. Retrieved Aug 7, 2003 from <http://www.achse.org.au/aushealth/winter98/rolesbody.htm>.

Harris, P. (2001). Goin' mobile. Retrieved Aug 6, 2005 from <http://www.learningcircuits.org/2001/jul2001/harris.html>.

Harvey, L. (1999). New realities: the relationship between higher education and employment. Retrieved Aug 23, 2003 from <http://www.uce.ac.uk/crq/publications/cp/eair99.html>.

Hasseltine, D. A. (2000). The role of universities in corporate contract training and development, University of Virginia.

Haughey, M. (2003). Distance learning. Retrieved Feb 20, 2003 from <http://www.thecanadianencyclopedia.com/PrinterFriendly.cfm?ArticleId=A0002317>.

Hawryszkiewicz, I. Supporting integrated learning processes. Retrieved Aug 31, 2003 from <http://ausweb.scu.edu.au/aw02/papers/referred/hawryszkiewicz/paper.html>.

Hayes, D. (2003). The case for corporate universities. Retrieved July 6 2004 from <http://www.spiked-online.com/Articles/00000006DC49.htm>.

Hazari, S. (1998). Evaluation and selection of Web course management tools. Retrieved July 2, 2003 from <http://sunil.umd.edu/webct/>.

Hearn, D. R. (2001). Education in the workplace: an examination of corporate university models Retrieved Apr 17, 2003 from: <http://www.newfoundations.com/OrgTheory/Hern721.html>.

Henderson, B. (1999). The components of online education, Center for the Study of Cooperation, University of Saskatchewan, Canada.

Hermanson, T. T. O. (1990). The physician in health care administration, Helsingin Yliopisto (Finland).

Hernes, G. (2003). The virtual university/The new century: societal paradoxes and major trends. *The Virtual University: Models & Messages*, UNESCO: International Institute for Educational Training.



- Heterick, R. C., J. R. Mingle, et al. (1997). The public policy implications of a global learning infrastructure. NLII-SHEEO Symposium, Denver, Colorado.
- Heyneman, S. P. (2000). Educational qualifications: the economic and trade issues. *Assessment in Education: Principles, Policy & Practice* 7(3): 417-438.
- Higgins, G. M., Jr. (2001). 'If you build it, will they come?'. A study of the effect of system structure on the institutionalization of knowledge management within organizations, University of Georgia.
- Hill, R. (1997). Theories of adult learning, teaching, and development as applied to the learning and teaching of computer fundamentals and multimedia. Retrieved June 15, 2003 from <http://members.optusnet.com.au/~robchill/Resume/ED817FP3.html>.
- Hilton, A. (2002). Should qualitative and quantitative studies be triangulated? Retrieved Mar 5, 2005 from <http://www.isncc.org/news/triangle.htm>.
- Hiltz, S. R. and M. Turoff (1978). The network nation: human communications via computer. Don Mills, Addison-Wesley Publishing Company Inc.
- Hirsch, G. B. and C. S. Immediato (1998). Design of simulators to enhance learning: examples from a health care Microworld. Waltham, MA, Innovation Associates and the New England Healthcare Assembly.
- Hite, J. A. J. (1998). Learning at the edge of chaos, Peabody College for Teachers of Vanderbilt University.
- Hock, D. (2000). The art of Chaordic leadership. *Leader to Leader* 15(Winter 2000): 20-26.
- Hodkinson, P. (2002). Non-formal learning: mapping the conceptual terrain. a consultation report. Retrieved September 19, 2005 from [http://www.infed.org/archives/e-texts/colley\\_informal\\_learning.htm](http://www.infed.org/archives/e-texts/colley_informal_learning.htm).
- Hoffman, M. (n.d.). Transformation by design. Retrieved July 21, 2005 from <http://www.wie.org/j22hock.asp?page=3>.
- Hooijberg, R. (1992). Behavioral complexity and managerial effectiveness: A new perspective on managerial leadership. Chicago, The University of Michigan.
- Hornestay, D. (1996). Downsizing dilemma. Retrieved Mar 16, 2003 from: <http://www.govexec.com/reinvent/downsize/0896s3.htm> .
- Horton, L. D. (1995). Leadership effectiveness: A descriptive analysis of incumbent perceptions of existing and future traits and skills, Michigan State University.
- Hudspith, D. and H. Ingram (2002). Delivering management development through action learning Retrieved Aug 19, 2002 from: <http://www.imcasocrates.org/imcass/VUs/isl/content.asp?id=106892> .
- Huff, C. E. (2001). A forecast of technical skills in distance education graduate courses as identified by stakeholders at a selected institution of higher education, Texas A&M University.

- Hume, M. (2001). Are university degrees worthless? Retrieved Aug 16, 2003 from <http://www.spiked-online.com/Printable/00000002D1F9.html>.
- Huntington, J. A. (1997). Health care in chaos: will we ever see real managed care? *Online Journal of Issues in Nursing* (www.nursingworld.org/ojin/tpc1\_7.htm)(Jan 6. 1997).
- Hurst, L. (n.d.). The sound of one butterfly setting off a revolution. *The Toronto Star*. Toronto: 4.
- Hutchens, D. (n.d.). Introduction to the principles of complexity theory. Retrieved Nov 11, 2004 from <http://www.davidhutchens.com/bizwriter/articles/complexity.html>.
- Hylton, J. (2004). Leadership; the next HHR crisis? *Healthcare Management Forum* 17(2): 3-4.
- Iles, V. and K. Sutherland (2001). Organizational change: managing change in the NHS, National Co-ordinating Centre for NHS Service Delivery & Organization R & D.
- Imel, S. (1999). Technology and adult learning. Retrieved Aug 3, 2005 from <http://www.ericdigests.org/1999-2/current.htm>.
- Irving, C. J. (1997). The inessential student: The current and future vision of university continuing education, Memorial University of Newfoundland (Canada).
- Isaac, W. W. (1995). Managing in health care institutions: The issue of professional development for managers of a changing environment, Michigan State University.
- Ishii, K. and B. Lutterbeck (2001). Unexploited resources of online education and democracy- why the future should belong to open courseware. Retrieved Feb 7, 2003 from [http://www.firstmonday.dk/issues/issue6\\_11/ishii/](http://www.firstmonday.dk/issues/issue6_11/ishii/).
- Isouard, G. (2000). Competencies for health care managers, Australia College of Health Service Executives (NSW) Education Working Party.
- Jackson, S. (1995). Work-based learning for academic credit. Retrieved Aug 26, 2002 from : [http://web12.epnet.com/citation.asp?tb=1&\\_ug=db+1+ln+en%2Dus+sid+FC18DB2E%2](http://web12.epnet.com/citation.asp?tb=1&_ug=db+1+ln+en%2Dus+sid+FC18DB2E%2)
- Jackson, W. K. (2001). Information overload and managerial roles: A naturalistic study of engineers, The University of Texas at Austin.
- Jacob, S. M. (2002). The pros and cons of web-based distance education in nursing. Retrieved Sept 10, 2002 from: <http://www.ed.psu.edu/acsde/readings/annRead8abstracts.asp> .
- Jacobson, M. J. and J. A. Levin (1993). Network learning environments and hypertext: constructing personal and shared knowledge spaces. Retrieved Nov 18, 2003 from <http://www.ed.uiuc.edu/TTA/Papers/J&L-Tel-Ed93.html>.
- Jakupec, V. and H.-Y. Yoon (n.d.). The theory of the 'big bang' and open and distance education: surviving the 'big crunch' in global markets. Retrieved Aug 17, 2003 from <http://www.com.unisa.edu.au/cccc/papers/refereed/paper21/Paper21-1.htm>.

- James, G. (n.d.). Advantages and disadvantages of online learning. Retrieved Feb 29, 2004 from <http://www.elearninghouse.com/clearinghouse/resource/results.xsp?keys=12>.
- James, P. (2002). The enterprise university: Power, governance and reinvention in Australia. *Academe, Washington* 88(1): 71-73.
- Janigan, M. (2004). Boxed in by health care. *Maclean's*: 16.
- Jasper, M. A. (2002). Nursing roles and nursing leadership in the new NHS: changing hats, same heads. *Journal of Nursing Management* 10(2): 63-65.
- Jennings, C. P. (2002). Medicare, past, present, and future: a policy perspective. *Policy, Politics, & Nursing Perspective* 3(1): 57-65.
- Jensen, B. (2000). The shocking future of education in an era of corporate cross-border competition. Retrieved Feb 28, 2003 from <http://www.trinity.edu/rjensen/000aaa/thefuture.htm>.
- Jensen, K. K. (1994). A case study of organizational change (Peter Senge, problem solving), Loyola University of Chicago.
- Johnson, A. (1996). The changing face of education. Retrieved May 3, 2005 from <http://www.cgli.ca/Community/Prospects/v3n3/tcfoe.htm>.
- Johnson, D. R. and D. G. Post (1996). Law and borders-the rise of law in cyberspace. Retrieved Oct 4, 2003 from [http://www.cli.org/X0025\\_LBFIN.html](http://www.cli.org/X0025_LBFIN.html).
- Johnson, H. T. (1997). A different perspective on quality: bringing management to life. The Deming Institute Fall 1997 Meeting, Washington D.C.
- Johnson, Lauren Keller. (2005). Getting new managers up to speed. Retrieved Oct 10, 2006 from <http://hbawk.hbs.edu/archive/4884.html>.
- Johnson, N. (1993). The knowledge economy: the nature of information in the 21st century. Queenstown, The Aspen Institute.
- Johnson, S. D., S. R. Aragon, et al. (2000). Comparative analysis of learner satisfaction and learning outcomes in online and face-to-face learning environments. *Journal of Interactive Learning Research* 11(1): 29-49.
- Jones, S. (2002). Educating tomorrow's knowledge managers: transforming managers from strangers to reflective peer-learners. Retrieved June 24, 2005 from <http://www.qualityresearchinternational.com/tq/papers/jones.doc>.
- Judd, C. M., E. R. Smith, et al. (1991). Research methods in social relations, 6th Ed. Toronto, Holt Rinehart & Winston Inc.
- Jude-York, D. A. (1991). Organizational learning climate, self-directed learners and performance at work, The Fielding Institute.
- Kallinikos, J. (2004). The social foundations of the bureaucratic order. *Organization* 11(1): 13-36.

- Karaliotas, Y. (1997). Learning on and over the Internet: dynamics and limitations. Retrieved Nov 18, 2003 from <http://users.otenet.gr/~kar1125/education.htm>.
- Karaliotas, Y. (1998). Interactivity in the learning environment. Retrieved Nov 18, 2003 from <http://users.otenet.gr/~kar1125/iaction.htm>.
- Kaufman, R. (2000). Thriving and not just surviving: new directions for tomorrow's performance-improvement managers. *Education Technology* 40: 23-28.
- Kaye, B. L. (1998). The kept-on workforce. *Training and Development* 52: 32-34 & 36-38.
- Kearsley, G. (2003). Explorations in learning & instruction: The theory into practice database. Retrieved Sept. 4, 2003 from <http://tip.psychology.org/index.html>.
- Kelly, D. E. (2004). E-learning research and development roadmap for Ireland. Dublin, Science Foundation Ireland. National College of Ireland.
- Kelly, D. K. (n.d.). Adult learners: characteristics, theories, motivation, learning environment. Retrieved September 19, 2005 from [http://www.dit.ie/DIT/lifelong/adult/aslearn\\_char.doc](http://www.dit.ie/DIT/lifelong/adult/aslearn_char.doc).
- Kerka, S. (1996). Continuing education: market driven or student centred? Retrieved Aug 17, 2003 from <http://eriacve.org/docgen.asp?tbl=archive&ID=A026>.
- Kim, K., M. Hagerdom, et al. (2001). Participation in adult education and lifelong learning:2000-01, National Center for Education Statistics. US Department of Education.
- Kirby, M. J. L. (2002). The health of Canadians- the federal role. Ottawa, The Standing Senate Committee on Social Affairs, Science and Technology. Ottawa..
- Kleiman, G. (2004). Teaching teachers to teach online. Retrieved Aug 12, 2005 from <http://www.ncltechsummits.org/summit2/presentations/1.6Kleiman.pdf>.
- Knowles, M. (1990). The adult learner, a neglected species, 4th Edition. Houston, Gulf Publishing Co.
- Koenders, A. (2002). Creating opportunities from challenges in on-line introductory biology. *HERDA*: 292-400.
- Kokosalakis, N. (2001). Lifelong learning: implications for universities. *New Perspective for Learning*: 1-5.
- Kotter, J. (1996). Leading change: why transformation efforts fail. Boston, Harvard Business School Press.
- Kouri, D. (2002). Is regionalization working? Retrieved Mar 31, 2004 from [http://www.chmonline.ca/issue/article.jsp?content=20021001\\_110004\\_1004](http://www.chmonline.ca/issue/article.jsp?content=20021001_110004_1004).
- Kouri, D. M. (1999). Health care regionalization in Saskatchewan: An exercise in democracy, The University of Regina (Canada).
- Kovner, A. R. (2002). Managers, teachers, researchers: Sharing experience in health care. *Health Care Management Review* 27(4): 84-87.

- Kraker, D. (2001). The Canadian cure. Retrieved May 27, 2005 from <http://www.inmotionmagazine.com/hcare/canadahc.html>.
- Kramarae, C. (2001). The third shift: women learning online. Washington, American Association of University Women Educational Foundation.
- Kroker, A. (1994). Digital humanism: The processed world of Marchall McLuhan. Retrieved Dec 11, 2003 from [http://www.ctheory.net/text\\_file.asp?pick=70](http://www.ctheory.net/text_file.asp?pick=70).
- Kruse, K. (2004). The benefits and drawbacks of e-learning. Retrieved Aug 8, 2005 from [http://www.e-learningguru.com/articles/art1\\_3.htm](http://www.e-learningguru.com/articles/art1_3.htm).
- Kumar, V. S. (1996). Computer-supported collaborative learning: Issues for research Retrieved Sept 4, 2003 from <http://www.cs.usask.ca/grads/vsk719/academic/890/project2/project2.html>.
- Laidlaw, S. (2001). World Trade Organization targets Canadian health care system. *Toronto Star*. Toronto.
- Langford, J. and K. Seaborne (2003). To click or not to click: E-learning for the public sector. *The Journal of the Institute of Public Administration of Canada* 46(1): 50-75.
- LaRocque, N. (2002). Report challenges myths about market-driven tertiary education reforms. Retrieved Aug 17, 2003 from [http://www.educationforum.org.nz/documents/mediareleases/challenges\\_myths.htm](http://www.educationforum.org.nz/documents/mediareleases/challenges_myths.htm).
- Larsen, K., C. McInerney, et al. (1996). Learning organizations. Retrieved June 5, 2003 from <http://home.nycap.IT.com/klarsen/learnorg/>.
- LeBaron, J., J. Pulkkinen, et al. (2000). Promoting cross-border communication in an international web-based graduate course. Retrieved June 28 2003 from <http://imej.wfu.edu/articles/2000/2/01/index.asp>.
- Lee, E. (2003). Whatever happened to the university? Retrieved March 12, 2004 from <http://www.spiked-online.com/Printable/00000006SE5S.htm>.
- Leger, M. (n.d.). Health care of the future: vision 2020 leads the way-part 1. *HCIM&C* 2nd Quarter: 12-14.
- Lelic, S. (2005). Your say: KM in the healthcare industry. *Inside Knowledge* 6(4).
- Lenderman, H. and E. Sandelands (2002). Learning for a purpose: Building a corporate university. Retrieved Aug 19, 2002 from: <http://www.imcasocrates.org/imcass/VUs/isl/content.asp?id=106892> .
- Leopold-Lusmann, D. B. (2000). Virtual learning environments and student learning styles. Retrieved Apr 24, 2004 from <http://seminar.jura.uni-sb.de/publ/ss00/seminar/ss2000/int/individualwork/uploads/238IndividualAssignmentHealthrWilliams.htm>.
- Leopold-Lusmann, D. B. (2000). Virtual learning environments and student learning styles. Retrieved Apr 24, 2004 from <http://seminar.jura.uni-sb.de/publ/ss00/seminar/ss2000/int/individualwork/uploads/238IndividualAssignmentHealthWilliams.htm>.

- Lesh, S. G. (2001). Web-based learning: A Kirkpatrick's multilevel evaluation of effectiveness, Capella University.
- Levy, S. (2003). Six factors to consider when planning online distance learning programs in higher education. *Online Journal of Distance Learning Administration* VI(I).
- Lewin, R. (2003). The reality of complexity. Retrieved Apr 13, 2004 from <http://www.bizspirit.com/bsj/archive/articles/lewin1.html>.
- Lewin, R. (2003). The soul at work. Retrieved Apr 13, 2004 from <http://www.bizspirit.com/bsj/archive/articles/lewin2.html>.
- Lewis, S. (1997). Regionalization and devolution: transforming health, reshaping politics? Saskatoon, Saskatchewan, Health Services Utilization and Research Commission.
- Lieberman, T. (2003). Bruised and broken: US health system-older Americans increasingly face a system coming apart at the seams. Retrieved July 1, 2003 from <http://www.globalaging.org/health/us/bruised.htm>.
- LIm-Fernandes, M. A. (2001). Assessing the effectiveness of online education, Golden Gate University.
- Lindbad, G. D. (2000). The impact of student computer usage in executive MBA programs, University of California, Los Angeles.
- Lipinski, T. A. (2002). An argument for the application of copyright law to distance education. Retrieved Sept 15, 2002 from: <http://www.ed.psu.edu/acsde/readings/annRead7abstracts.asp>.
- Littlejohn, M. and C. Lofink (2001). Corporate learning: blurring boundaries and breaking barriers. Retrieved Oct 26, 2003 from <http://www-1.ibm.com/services/whitepapers/learning.html>.
- Lloyd, R. (2000). Barriers to telecommunication use in Australia. Canberra, NATSEM.
- Ludwig-Hardman, S. and J. C. Dunlop (2003). Learner support services for online students: scaffolding for success. Retrieved Feb 15, 2004 from <http://www.irrodl.org/content/v4.1/dunlop.html>.
- Luthans, B. C. and S. M. Sommer (1999). The impact of downsizing on workplace attitudes: differing reactions of managers and staff in a health care organization. *Group & Organization Management* 24(1): 46-70.
- Lydon, E. A. (1984). The missing connection between business and the universities. New York, MacMillan Publishing Co.
- Lynch, B. P. (2002). The digital divide or the digital connection: a U.S. perspective. Retrieved Nov 19, 2003 from [http://firstmonday.org/issues/issue7\\_10/lynch/](http://firstmonday.org/issues/issue7_10/lynch/).
- Mackin, J. F. (1997). An economic evaluation of health care reform in Nova Scotia: Conclusions, observations and recommendations, Dalhousie University (Canada).

- MacKinnon, N. J., C. Chow, et al. (2004). Management competencies for Canadian health executives: views from the field. *Healthcare Management Forum* (Winter): 15-20.
- MacLachlan, D. L. (2000). How much survey nonresponse is too much? Retrieved August 15, 2004 from [http://www.pugetsoundresearchforum.org/research\\_article\\_03.asp](http://www.pugetsoundresearchforum.org/research_article_03.asp).
- MacLeod, J. J. (1997). Health care reform in Nova Scotia: A study in pressure group politics, 1993-1996, Acadia University (Canada).
- Mann, C. L. (2001). The new economy: end of the welfare state? Economic Policy in the New Economy, Heinz Nixdorf Museums Forum, Paderborn.
- Malhotra, Yogesh. (1998). Knowledge management for the new world of business. Retrieved Oct 12, 2006 from <http://www.brint.com/km/whatis.htm>.
- Manning, M. A. (1998). Assessment of graduate health care administration education and its relationship to contemporary need in the health care industry, Southern Illinois University at Carbondale.
- Maor, D. and V. Hendriks (n.d.). Peer-learning and reflective thinking in an on-line community of learners. Retrieved July 22, 2003 from <http://www.aare.edu.au/01pap/mao01549.htm>.
- March, T. (1995). Working the web for education. Retrieved Aug 31, 2003 from <http://ozline.com/learning/theory.html>.
- Markanen, S. (1999). Putting learning at the centre of the Web, Bell Institute for Learning Design @ Sir Sandford Fleming College, Ontario.
- Mason, R. (2003). The virtual university: The university-current challenges & opportunities. The Virtual University: Models & Messages, UNESCO, International Institute for Educational Planning.
- Matteos, N., K. Wretlind, et al. (2002). Interaction in virtual versus traditional problem-based learning classrooms. Retrieved Sept 15, 2002 from: <http://www.ed.psu.edu/acsde/readings/annRead8abstracts.asp>.
- Mayers, T. (2000). Pedagogy, lifelong learning and ICT. IBM Chair Presentation, Research Centre for Lifelong Learning, Glasgow Caledonian Universities.
- Mayfield, K. (2001). Computing the geek gender gap. Retrieved Aug 3, 2005 from <http://wired-vig.wired.com/news/women/0,1540,41399,00.html>.
- Mazankowski, D. (2001). A framework for reform: report of the Premier's Advisory Council on Health. Edmonton, Alberta.
- McClure, P. A. (1998). Perspectives on higher education in the global market. *CAUSE/EFFECT Journal* 21(3).
- McConnell, C. R. (2002). The health care professional as a manager: Finding the critical balance in a dual role. *The Health Care Manager* 20(3): 1-10.
- McGown, K. A. (2000). Knowledge management in the twenty-first century: The role of the academic librarian. St. Paul, University of St. Thomas.

- McIntyre, M. (1997). The Web as an effective tool for adult learners. Retrieved Sept 12, 2003 from <http://www.tcm.com/trdev/mcintyre.htm>.
- McKay, P. (2003). Learning for the Information age business. Retrieved July 18, 2005 from [http://www.redbean.com.au/articles/files/from\\_e2i\\_v1.html](http://www.redbean.com.au/articles/files/from_e2i_v1.html).
- McLellan, H. A. A. (2003). Renewing the Canadian health care system. Retrieved July 1, 2003 from <http://www.hc-sc.gc.ca/english/media/speeches/21jan2003mine.html>.
- McNamara, C. (1999). Holistic organization development: a paradigm for the future. Retrieved Apr 13, 2004 from [http://www.managementhelp.org/misc/new\\_OD.htm](http://www.managementhelp.org/misc/new_OD.htm).
- McNamara, C. (1999). Overview of organizational change. Retrieved September 21, 2005 from [http://www.managementhelp.org/org\\_chng/org\\_chng.htm](http://www.managementhelp.org/org_chng/org_chng.htm).
- McPartland, P. A. (n.d.). Mandatory continuing education: does it really protect society from incompetent health professionals? Retrieved July 15, 2003 from <http://www.fplc.edu/risk/vol1/fall/mcpartla.htm>.
- Meckler, M. R. (2001). Influences on the performance of organizational knowledge transfer, Florida Atlantic University.
- Meister, J. C. (1998). Corporate universities, lessons in building a world-class work force. New York, McGraw-Hill, Inc.
- Meuser, E. A. (1998). Lessons learned: change initiatives in two Canadian universities. Toronto, University of Toronto.(unpublished PhD thesis)
- Meyen, E. L., R. J. Aust, et al. (n.d.). Assessing and monitoring student progress in e-learning personnel preparation environment. Lawrence, Kansas, University of Kansas.
- Michaelsen, V. E. (2002). Web-based education: a rationale. Retrieved Sept 10, 2002 from:: <http://www.ed.psu.edu/acsde/readings/annRead8abstracts.asp>.
- Middlehurst, R. (2003). The virtual university: a world of borderless higher education- impact and implications. The Virtual University, UNESCO: International Institute for Educational Planning.
- Mineghino, M. A. E. (2001). An empirical study of the relationship between role stress and empowerment in front-line managers and workers, California State University, Long Beach.
- Minton, M. C. (2000). Is your organization ready for e-learning? Retrieved Aug 3, 2005 from <http://www.comproj.com/Minton.htm>.
- Mintsberg, H. (2004). The MBA menace. Retrieved June 22, 2005 from <http://www.fastcompany.com/magazine/83/mbamenace.html>.
- Mitra, S. (2003). The virtual university: NetVarsity, India, UNESCO, International Institute for Educational Planning.



- Moini, S. and K. McMullin (2001). US health care delivery system needs major overhaul to improve quality and safety. Retrieved Sept 5, 2003 from <http://www4.nas.edu/news.nsf/isbn/0309072808?OpenDocument>.
- Moore, J. D. (2000). Countries approach reform differently. *Modern Healthcare* 30(8): 46-49.
- Moore, T. (2002). Corporate universities: over here and here to stay. *Financial Times*, London: 2-5.
- Moormann, T. E. (2002). The influence of organizational identification on member responses in the context of large-scale organizational change events, Georgia Institute of Technology.
- Moralis, M. (1999). Building a new hospital system: managers and CEOs cope with the architecture of change. Retrieved Aug 27, 2003 from <http://www.oha.com/oha/perspec.nsf/0/499015186d8882c3852567700057b38f?OpenDocument>.
- Morgan, G. (1992). Improving your flysight. Retrieved Nov 10, 2003 from <http://www.imaginiz.com/provocative/imagination/flysight.html>.
- Morgan, S. and J. Hurley (2002). Influences on the health care technology cost-driver. Ottawa, Commission on the Future of Health Care in Canada: 22.
- Morrel-Samuels, P. (2003). Web survey's hidden hazards. *Harvard Business Review* (July 2003): 16-17.
- Morrison, D. (2003). Trained up for profits. *The Sunday Telegram*. Cork.
- Morrison, J. L. and B. H. Khan (2003). The global e-learning framework: an interview with Badrul Khan. Retrieved Oct 27, 2003 from <http://ts.mivu.org/?show=article&id=1019>.
- Morrison, J. L. and J. C. Meister (2001). e-learning in the corporate university: an interview with Jeanne Meister. Retrieved Oct. 27, 2003 from <http://ts.mivu.org/default.asp?show=article&id=888>.
- Murray, G. (2002). Trends in international health care systems: UK, Australia, Sweden. Health Care as an Economic Engine, Toronto, Canada, The Change Foundation.
- Murray, M. E. (1993). Informal learning approaches of clinical nurses as they become effective first line managers, Columbia University Teachers College.
- Naisbitt, J. and P. Aburdene (1990). Ten new directions for the 1990s: megatrends 2000. New York, William Morrow & Company Inc.
- Narsavage, G. L. (n.d.). Education in nursing management. Retrieved June 26, 2003 from <http://www.healthnet.sk/texts/trnava/education1.html>.
- Navarro, P. and J. Shoemaker (2002). Performance and perceptions of distance learners in cyberspace. Retrieved Sept 15, 2002 from: <http://www.ed.psu.edu/acsde/readings/annRead7abstracts.asp> .
- Newman, F. and L. K. Couturier (2002). Trading public good in the higher education market. London, brown University.

- Nguyen, T. V. (2002). Knowledge management literature review and findings about perception of knowledge transfer in collaborative and process-oriented teams, Oeooerdine University.
- Nichols, F. (2004). Change management 101: a primer. 2005.
- Noble, D. F. (1998). Digital diploma mills: automation of higher education. Retrieved April 26, 2003 from [http://www.firstmonday.dk/issues/issue3\\_1/noble/](http://www.firstmonday.dk/issues/issue3_1/noble/).
- Noble, D. F. (2002). Digital diploma mills: the automation of higher education. Toronto, Between the Lines.
- Nonaka, I. a. T., Hirotaka (1995). Knowledge-creating company, how Japanese companies create the dynamics of innovation. New York, Oxford University Press.
- Noonan, T. (2000). Smart cards in Australia: the impact of smart cards on people with disabilities, The Commonwealth Government's 'AccessAbility Grants Program': 52.
- Northey, M. (2002). Making sense: a student's guide to research and writing. Don Mills, Oxford University Press Canada.
- Obringer, L. A. (n.d.). How e-learning works. Retrieved Aug 8, 2005 from <http://computer.howstuffworks.com/elearning3.htm>.
- O'Connor, T. (2004). Using learning styles to adapt technology for higher education. Retrieved Apr 24, 2004 from <http://web.indstate.edu/ctl/styles/learning.html>.
- Oketch, M. O. (2004). The African virtual university - development and critique. Retrieved Jan 3, 2004 from [http://www.bc.edu/bc\\_org/avp/soe/cihe/newsletter/News34/text010.htm](http://www.bc.edu/bc_org/avp/soe/cihe/newsletter/News34/text010.htm).
- Olian, J. D. (2002). Management education at risk, The Pennsylvania State University.
- Oliver, R. (2001). Assuring the quality of online learning in Australian higher education. Proceedings of Moving Online II Conference, Southern Cross University.
- O'Regan, E. (2003). 'Can do' private sector sought for health agency. *The Irish Times*. Cork, Ireland.
- Oren, A., D. Mioduser, et al. (2002). The development of social climate in virtual learning discussion. Retrieved Feb 11, 2004 from <http://www.irrodl.org/content/v3.1/mioduser.html>.
- Overby, S. (2003). The future of jobs and innovation. *CIO Magazine* (Dec 15, 2003).
- Owston, R., K. Cook, et al. (2001). Evaluation of the skills enhancement for health surveillance pilot online module on epidemiology. Toronto, York University.
- Panton, J. (2004). Selling out universities. Retrieved March 12, 2004 from <http://www.spiked-online.com/Printable/0000000CA352.htm>.
- Parekh, T. (2004). ISRO set to revolutionize education through EduSat. Retrieved Mar 1, 2004 from <http://timesofindia.indiantimes.com/articlesshow/469157.cms>.

- Parker, P. K. (2001). Assessing the role of leadership in transformation in a learning organization, The University of Manitoba (Canada).
- Pastore, M. (2000). Working adults like online education. Retrieved Aug 8, 2005 from <http://www.clickz.com/stats/sectors/education/article.php/423331>.
- Paterson, R. (2003). The new organization-based on capturing the value in the relationship. Retrieved July 21, 2005 from [http://smartpei.typepad.com/robs\\_thoughts/organizational\\_structure/](http://smartpei.typepad.com/robs_thoughts/organizational_structure/).
- Patterson, T. M. (1998). Corporate education and training for adult learners: A comparative study of two corporate university models, University of California, Davis.
- Pearce, E. C. (2003). BC health care- navigating the white waters. Leadership & Training. Victoria, BC, Royal Roads University.
- Peat, F. D. (1991). The philosopher's stone: Chaos, synchronicity and the hidden order of the world. New York, Bantam Doubleday Dell Publishing Group.
- Peebles, C. S. and L. Antolovic (1999). Cost (and quality and value) of information technology support in large research universities. *Educom Review* 34(5).
- Pelton, J. N. (1996). Cyberlearning vs. the university: An irresistible force meets an immovable object. *The Futurist* 30(6): 17-23.
- Penuel, B. (1999). New workplace learning technologies: activities and exemplars, Center for Technology in Learning, SRI International.
- Penuel, B. (1999). Coming to the crossroads of knowledge, learning, and technology: integrating knowledge management and workplace learning, Center for Technology and Learning, SRI International.
- Peraya, D. (n.d.). Distance education and the WWW. Retrieved Aug 31, 2003 from <http://tecfa.unige.ch/edu-comp/edu-ws94/contrib/peraya.fm.html>.
- Perdue, K. J. and T. Valentine (2002). Deterrents to participation in web-based continuing professional education. Retrieved Sept 15, 2002 from: <http://www.ed.psu.edu/acsde/readings/annRead7abstracts.asp>.
- Perkin, H. (1989). The rise of professional society. New York, Routledge.
- Perley, J. and D. M. Tanguay (1999). Accrediting on-line institutions diminishes higher education. *Chronicle of Higher Education* 46 (10): B4-B6.
- Perreault, H., L. Waldman, et al. (2002). Overcoming barriers to successful delivery of distance-learning courses. *Journal of Education for Business* 77(6): 313-318.
- Peters, O. (2000). Digital learning environments: new possibilities and opportunities. Retrieved Apr 12, 2004 from <http://www.irrodl.org/content/v1.1/otto.html>.
- Peters, T. (1987). Thriving on chaos. New York, Alfred A. Knopf.
- Peters, T. J. (1987). Thriving on chaos: handbook for a management revolution. New York, Harper & Row Publishers.

- Petroni, R., R. Sigman, et al. (2004). Response rates and nonresponse in establishment surveys-BLS and Census Bureau, Federal Economic Statistics Advisory Committee (FESAC).
- Pfeffer, J. and C. T. Fong (2002). The end of business schools? less success than meets the eye. Retrieved Aug 10, 2004 from <http://www.aomonline.org/Publications/Articles/BSchools.asp>.
- Pfeffer, J. and R. I. Sutton (n.d.). The knowing-doing gap: how smart companies turn knowledge into action. Retrieved Oct 21, 2003 from <http://www.wmc.on.ca/articles/article09.htm>.
- Philpot, A., R. Devitt, et al. (2002). Competency-based leadership selection case study: Peterborough Regional Health Centre. *Healthcare Management Forum* Winter): 55-58.
- Pillay, Y. (2001). Voices of health policy makers and public health managers: key themes. Retrieved July 7, 2003 from <http://www.healthlink.org.za/sahr/sahr/2001/chapter16.htm>.
- Pillutla, S. (2003). Creating a web-based simulation gaming exercise using PERL and JavaScript. *Simulation & Gaming* 34(1): 112-130.
- Pituro, M. (2002). Some lessons to be learned from Canadian health system. Retrieved Jan 7, 2003 from <http://www.managedcaremag.com/archives/0203/0203.canada.html>.
- Plsek, P. E. and T. Wilson (2005). Complexity, leadership, and management in healthcare organizations. *British Medical Journal* 323: 746-749.
- Pocknee, C. and D. Robbie (2002). Surveyor: a case study of a web-based survey tool for academics. Retrieved Mar 16, 2005 from <http://www.ascilite.org.au/conferences/auckland02/proceedings/papers/140.pdf>.
- Podger, A. (1999). Reforming the Australian health care system: a government perspective. *Health Affairs* (May/June).
- Podger, A. and P. Hagan (1999). Reforming the Australian health care system: the role of government, Department of Health and Aged Care.
- Pope, S. L. (1992). Anticipation and planning for competitive technological change (technological change), Harvard University.
- Por, G. (2002). Management education and knowledge ecology. Retrieved Apr 23, 2003 from [http://www.co-i-l.com/coil/knowledge-garden/kd/ke\\_4\\_biz.shtml](http://www.co-i-l.com/coil/knowledge-garden/kd/ke_4_biz.shtml).
- Potter, E. (2001). Computer ownership and Internet access: opportunities for workforce development and job flexibility. Employment Policy Foundation.
- Prasad, K. (1999). Organizations as complex adaptive systems: implications for the design of information systems, Open University (United Kingdom).
- Prestoungrange, G. (2001). Why do managers learn best at work? Retrieved Aug 19, 2002 from: <http://www.imcasocrates.org/imcass/VUS/isl/content.asp?id=106893>.

- Prestoungrange, G., E. Sandelands, et al. (2000). *The virtual learning organization*. New York, Continuum.
- Prigogine, I. and I. Stengers (1984). *Order out of chaos: Man's new dialogue with nature*. Toronto, Bantam Books.
- Prince, C. and J. Stewart (2002). Corporate Universities - an analytical framework. *The Journal of Management Development* 21(9/10): 794-811.
- Prymula, R. (n.d.). Training a new generation of health managers. Retrieved May 7, 2003 from <http://www.euroasiahealthtransitionconference.org/absrtacteng/PrymulaABSengD.Doc>.
- Pui, M. V. (2002). A survey to examine Alberta occupational therapists' perceptions of internet-based continuing education, University of Alberta (Canada).
- Quintana, Y. (1996). Evaluating the value and effectiveness of Internet-based learning. Retrieved Nov 26, 2003 from [http://www.isoc.org/inet96/proceedings/c1\\_4.htm](http://www.isoc.org/inet96/proceedings/c1_4.htm).
- Ramsay, C. (2001). *Beyond the public-private debate*. Calgary, The Marigold Foundation.
- Ratcliffe, D. T. (n.d.). The post corporate world: life after capitalism. Retrieved Jan 6, 2003 from [http://www.ratical.org/many\\_worlds/seeingPCW.html](http://www.ratical.org/many_worlds/seeingPCW.html).
- Read, M. (1995). Exploiting information systems in higher education: an issues paper. Retrieved June 28, 2003 from [http://www.ex.ac.uk/public\\_html/sp/jisc1.html](http://www.ex.ac.uk/public_html/sp/jisc1.html).
- Reddick, A., C. Boucher, et al. (2003). The dual digital divide: The information highway in Canada. Retrieved Nov 11, 2003 from <http://www.digitaldividenetwork.org/content/stories/index.cfm?key=64>.
- Reeves, T. (1997). Evaluating what really matters in computer-based education. Retrieved Sept. 4, 2003 from <http://www.educationau/edu/au/archives/CP/REFS/reeves.htm>.
- Reichert, D. S. and B. Wachter (2000). *The globalisation of education and training: Recommendations for a coherent response of the European Union*, Academic Cooperation Association (ACA).
- Reingold, J. (2000). You can't create a leader in a classroom. Retrieved June 22, 2005 from [http://www.fastcompany.com/magazine/40/wf\\_mintsberg.html](http://www.fastcompany.com/magazine/40/wf_mintsberg.html).
- Reinhardt, U. E., P. S. Hussey, et al. (2002). Cross-national comparisons of health systems using OECD data, 1999. Retrieved Mar 19, 2003 from <http://www.healthaffairs.org/freecontent/v21n3/s21.htm>.
- Reiser, O. L. (2002). Education trends in a world crisis. Retrieved Oct 4, 2002 from: <http://www.netnews.org/bk/education/edu1000.html>.
- Resnik, D. B. (2001). What is ethics in research and why is it important? Retrieved July 12, 2005 from [http://www4.ncsu.edu:8030/~nkriesb/rcr\\_intro.htm](http://www4.ncsu.edu:8030/~nkriesb/rcr_intro.htm).
- Revans, R. W. (1971). *Developing effective managers, a new approach to business education*. New York, Praeger Publishers.

- Revans, R. W. (1982). *The origins and growth of action learning*. London, Chartwell-Bratt Ltd.
- Richardson, H. (1999). Laboratory medicine in Ontario: its downsizing and the consequences on quality. *Clinical Chemistry* 290 (1): 57-72.
- Richardson, J. (2003). Life in the workplace: at the edge of chaos and spirit. Retrieved Apr 13, 2004 from <http://www.bizspirit.com/bsj/archive/articles/richardson.html>.
- Richards-Wilson, S. (2002). Changing the way MBA programs do business-lead or languish. *Journal of Education for Business* 77(5): 296-300.
- Robertson, M. E. (2004). Management education needs and delivery options for health care managers: survey report (unpublished), Prepared for the British Columbia Health Authorities.
- Robertson, M. E. (1980). *Nursing unit administration*. Ottawa, Canadian Hospital & Canadian Nurses Association.
- Robertson, S. (2003). Learning organization, Management Briefing of National Health Services in Britain.
- Robinett, J. (n.d.). Cyberethics: back to the future. Retrieved Nov 18, 2003 from [http://www-rohan.sdsu.edu/dept/drwswebb/lore/l\\_1/robinett.htm](http://www-rohan.sdsu.edu/dept/drwswebb/lore/l_1/robinett.htm).
- Robinson, P. (2002). Prognosis negative. Retrieved May 16, 2003 from <http://www.uncommonknowledge.org/700/713.html>.
- Roddick, V. (2001). Patients first: renewal and reform of British Columbia's health care system. Victoria, B.C., The Legislative Assembly of British Columbia.
- Roger, B. (2003). Welcome the rise of China and India. *The Sunday Telegraph*. Cork, Ireland.
- Rogers, D. L. (2000). A paradigm shift: technology integration for higher education in the new millennium. *Educational Technology Review* (Spring/Summer): 19-33.
- Romaniuk, E. W. (2003). Computer-assisted learning. The Canadian Encyclopedia. Retrieved Feb 20, 2003 from <http://www.thecanadianencyclopedia.com/PrinterFriendly.cfm?ArticleId=A0001823>.
- Romanow, R. (2002). *Building on values: the future of health care in Canada*. Ottawa, Commission on the Future of Health Care in Canada.
- Romilly, L. (2005). Development of a comprehensive situational analysis of human resources and skill needs of Canada's health executive/management sector. Ottawa, The Canadian College of Health Service Executives in partnership with the Academy of Canadian Executive Nurses, Canadian Society of Physician Executives and Human Resources Skills Development Canada.
- Romses, C. R. R. (n.d.). Intellectual capital: an emerging concept applicable to the Canadian forces? Retrieved Jan 4 2005 from <http://198.231.69.12/papers/nssc1/romses1.html>.
- Rosenhead, J. (1998). Complexity theory and management practice. Retrieved September 19, 2005 from <http://human-nature.com/science-as-culture/rosenhead.html>.

- Ross, J. (2000). An exploratory analysis of post-secondary student achievement comparing a Web-based and a conventional course learning environment. Calgary, University of Calgary.
- Rossett, A., F. Douglass, et al. (2003). Strategies for building blended learning, Learning Circuits, American Society for Training and Development. 2003.
- Rossmann, P. (2003). The future of higher (lifelong) education: for all worldwide, a holistic view. Retrieved July 10, 2003 from <http://ecolecon.missouri.edu/globalresearch/chapters/1-07.html>.
- Rovai, A. P. (2002). Building sense of community at a distance. Retrieved Nov 2, 2004 from <http://www.irrodl.org/content/v3.1/rovai.html>.
- Rudestam, K. E. and J. Schoenholtz-Read (2002). Handbook of online learning: innovations in higher education and corporate training. Thousand Oaks, California, Sage Publications Inc.
- Ruhe, V. and A. Qayyum (1997). Learning through new technologies: the response of adult learners-cross-case comparison, University of British Columbia, Distance Education & Technology.
- Rumble, G. (2001). E-education: whose benefits, whose costs. Retrieved Mar 29, 2003 from [http://www.iec.ac.uk/resources/e\\_education\\_costs.pdf](http://www.iec.ac.uk/resources/e_education_costs.pdf).
- Rumble, G. (n.d.). The costs of networked learning: what have we learnt? Retrieved Mar 23, 2003 from <http://www.shu.ac.uk/flish/rumblep.htm>.
- Ryan, R. M. and E. L. Deci (2000). Intrinsic and extrinsic motivations: classic definitions and new directions. *Contemporary Educational Psychology* 25: 54-67.
- Ryan, Y. and L. Stedman (2001). The business of borderless education, 2001 update, Commonwealth Department of Education, Science & Training.
- Sahtouris, E. (1998). The biology of globalization. Retrieved June 3, 2003 from <http://www.ratical.com/LifeWeb/Articles/globalize.html>.
- Sauer, M. A. C. (2000). The mindful conduit: organization structure, climate and individual characteristics related to stress, communications and decision processes, The University of Texas at Arlington.
- Sauer, P. (2001). E-learning emerges as the next horizon in corporate training with promises of cost-savings. *Chemical Market Reporter* 260 (9): F8-F12.
- Sauser, W. I. and L. D. Sauser (2002). Changing the way we manage change. *Advanced Management Journal* 67(4): 34-39.
- Scardamalia, M. and C. Bereiter (1994). "Computer support for knowledge-building communities." *The Journal of the Learning Sciences* 3: 265-283.
- Schad, R. A. (2003). Copyright and the Web, The Commonwealth of Learning. Retrieved May 19, 2003 from <http://www.col.org/copyright/summary.htm>.
- Scheffelin, A. M. (1995). The hospital administrator: yesterday, today and tomorrow, Golden Gate University.

- Schein, E. H. (1997). *Organizational culture and leadership*, 2nd Ed. San Francisco, Jossey Bass Publishers.
- Scherer, J. (2003). Navigating the rapids of change. Retrieved Apr 13, 2004 from <http://www.bizspirit.com/bsj/archive/articles/scherer1.html>.
- Schleede, J. (2002). The future of management education. *Mid-American Journal of Business* 17(1): 5-8.
- Schneider, D. (1994). Teaching & learning with Internet tools: a position paper. Retrieved Nov 18, 2003 from <http://tecfa.unige.ch/edu-comp/edu-ws94/contrib/schneider/schneide.fm.html>.
- Schneider, J. A. (n.d.). Ethics, confidentiality and informed consent: summary for student researchers. Retrieved Aug 16, 2004 from: <http://www.chss.iup.edu/jschneid/Ethics,%20Confidentiality%20and%20Informed%20Consent.htm>.
- Schneider, M. D. (2001). Canada: nirvana for MBAs? Retrieved June 23, 2005 from [http://www.buisnessweek.com/magazine/content/01\\_19/b3731085.htm](http://www.buisnessweek.com/magazine/content/01_19/b3731085.htm).
- Schueler, J. (2000). University of Chicago hospitals' academy. *Corporate Universities International*. 6.
- Schutte, J. G. (n.d.). Virtual teaching in higher education: the new intellectual superhighway or just another traffic jam. Retrieved Nov 9, 2003 from <http://www.csun.edu/sociology/virexp.htm>.
- Schuyler, G. (1997). A paradigm shift from instruction to learning, ERIC Digest. Retrieved Aug 10 2003 from <http://www.ericfacility.net/ericdigests/ed414961.html>.
- Seel, R. (n.d.). Culture and complexity: new insights on organizational change. *Organizations & People* 7(2): 2-9.
- Seligman, M. (2002). MBAs under a microscope. *New Zealand Management* 49(5): 51-54.
- Senge, P. M. (1990). *The fifth discipline*. New York, Currency Doubleday.
- Senge, P. M. (1999). *The dance of change*. New York, Doubleday.
- SeVeaux, P. (2001). An Interview with Jeanne Meister. Retrieved Mar 17, 2003 from: [www.elearning.com](http://www.elearning.com).
- Shaddle, S. M. (2001). A case study of the implementation of computer-based instruction in continuing professional education for nurses, Northern Illinois University.
- Shale, D. (2002). The hybridisation of higher education in Canada. Retrieved Apr 12, 2004 from <http://www.irrodl.org/content/v2.2/shale.html>.
- Sheehan, K. (2001). E-mail survey response rates: a review. *Journal of Computer-Mediated Communication* 6(2).



- Shelton, K. and G. Saltsman (2004). Tips and tricks for teaching online: how to teach like a pro!. Retrieved Aug 12, 2005 from [http://itdl.org/Journal/Oct\\_04/article04.htm](http://itdl.org/Journal/Oct_04/article04.htm).
- Sherman, R. C., C. End, et al. (1999). The Internet gender gap: is it narrowing or widening? American Psychological Association, Boston.
- Sherry, L. (2001). Issues in distance learning. *International Journal of Educational Communications* 1(4): 337-365.
- Sherwood, J. (2002). Continuing professional education for health care professionals. *Healthbeat*: 5-9.
- Siemens, G. (2004). Connectivism: a learning theory for the digital age. Retrieved July 19, 2005 from <http://www.elearnspace.org/Articles/connectivism.htm>.
- Sigmond, R. M. (1995). Back to the future: partnerships and coordination for community health. *Frontiers of Health Services Management*(Summer 1995).
- Sigmond, R. M. (1997). A vision of the role of health administration education in the transformation of the American health system. Retrieved Oct 7, 2003 from <http://www.sigmondpapers.com/18.html>.
- Simanek, D. (n.d.). The decline of education 1. Retrieved Aug 16, 2003 from <http://www.lhup.deu/~dsimanek1.htm>.
- Simkovits, H. (n.d.). Leadership and management education: more important in a tougher economy. Retrieved Oct 6, 2003 from <http://www.buisness-wisdom.com/articles/ArtclManagementEducation.html>.
- Simpson, M., F. Payne, et al. (1999). Using information and communications: technology as a pedagogical tool: who educates the educators? *Journal of Education for Teaching* 25(3): 247-263.
- Skinner, M. (2004). Research-the essential guide: ways to categorise research and methodology. Retrieved Aug 25, 2004 from <http://www.bfi.org.uk/education/resources/teaching/general/research/>.
- Slambrouck, V. (1999). In the world of high tech, everyone is an island. *The Christian Science Monitor*: 2.
- Smeds, R., T. Takala, et al. (1999). Simlab-a virtual learning environment for organizations. Retrieved May 3, 2005 from <http://www.enable.evitsch.fi/enable99/papers/smeds/smeds.html>.
- Smith, M. K. (2000). The theory and rhetoric of the learning society. Retrieved Aug 31, 2003 from [www.infed.org/lifelonglearning/b-Irnsoc.htm](http://www.infed.org/lifelonglearning/b-Irnsoc.htm).
- Smith, M. K. (2001). Peter Senge and the learning organization. Retrieved Jun 5, 2003 from : <http://www.infed.org/thinkers/senge.htm> .
- Smith, M. K. (2005). The learning organization. Retrieved September 21, 2005 from <http://www.infed.org/biblio/learning-organization.htm>.

- Smith, P. A. C. and J. O'Neil (2003). A review of action learning literature 1994-2000: Part 1- bibliography and comments. *Journal of Workplace Learning* 15(2): 63-71.
- Smith, R. E. (1997). The future of healthcare systems: Information technology and consumerism will transform health care worldwide. *British Medical Journal* 314 (May 24): 1495-1496.
- Smith, S. and A. Benscoter (2002). Implementing an internet tutorial for web-based courses Retrieved Sept 15, 2002 from: <http://www.ed.psu.edu/acsde/readings/annRead7abstracts.asp> .
- Smith, S. B. (1999). The effectiveness of traditional instructional methods in an online learning environment. Las Vegas, University of Nevada.
- Snook, A. (2005). What killed the NHSU?. Retrieved June 21, 2005 from <http://www.trainingfoundation.com/articles/default.asp?PageID=2079>.
- Solomon, D. J. (2001). Conducting web-based surveys. Retrieved Mar 10, 2005 from <http://pareonline.net/getvn.asp?v=7&n=19>.
- Somerville, M. A. E. (1999). Do we care?: reviewing Canada's commitment to health. First Directions for Canadian Health Care Conference, Toronto.
- Southern, N. L. (1997). The art of conversation in management learning: Organization transformation in the United States and China, University of San Francisco.
- Sowell, T. (1997). Inside American education: the decline, the deception, the dogmas. Retrieved Aug. 16, 2003 from [http://www.popecenter.org/clarion/1997/August\\_97/sowell\\_review.html](http://www.popecenter.org/clarion/1997/August_97/sowell_review.html).
- Spallek, H., P. Berthold, et al. (2002). Distance education for dentists: improving the quality of online instruction. Retrieved Sept 15, 2002 from: <http://www.ed.psu.edu/acsde/readings/annRead8abstracts.asp>.
- Spender, D. (1996). Creativity and the computer education industry. Retrieved Apr 11, 2003 from: <http://www.acs.org.au/ifip96/dales.html>.
- Spink, G. (n.d.). Managing the future of Australian business. Retrieved Aug. 16. 2003 from <http://www.monash.edu.au/pubs/busquart/bq017/future.html>.
- Spirn, S. and D. W. Benfer (1982). Issues in health care management. Rockville, Maryland, Aspen Publications.
- Spiro, R. (2002). Pioneering a new way of learning in a complex and complicated world. Retrieved Dec 10, 2003 from <http://ed-web3.educ.msu.edu/newed/spring02/faculty1.htm>.
- Stacey, R. D. (2001). Complex responsive processes in organizations. New York, Routledge.
- Stacey, R. D., D. Griffin, et al. (2000). Complexity and management: Fad or radical challenge to systems thinking? New York, Routledge.
- Starr, F. (1997). Learning theory and use of the World Wide Web resources. Retrieved Nov 18, 2003 from <http://fcis.oise.utoronto.ca/~fstarr/learn.htm>.

- Sterman, J. D. (n.d.). Teaching takes off: flight simulators for management education. Retrieved Feb 9, 2003 from <http://web.mit.edu/jsterman/SDG/beergame.html>.
- Stevens, K. A. (1993). Going through change and coming out whole: How individuals learn to handle organizational change (workplace learning), Columbia University Teachers College.
- Stewart, T. A. (1997). Intellectual capital. New York, Doubleday.
- Stilborne, L. and L. Williams (1996). Meeting the needs of adult learners in developing courses for the Internet. Retrieved July 24, 2003 from [http://www.isoc.org/isoc/whatis/conferences/inet/96/proceedings/c4/c4\\_2.htm](http://www.isoc.org/isoc/whatis/conferences/inet/96/proceedings/c4/c4_2.htm).
- Stokes, P. B. (1990). A new role for the university in Canada's knowledge-based society: The delivery of advanced-level continuing general education to post-baccalaureate practitioners, University of Toronto (Canada).
- Strassmann, P. A. (1995). The politics of information management. Retrieved May 12, 2003 from <http://www.strassmann.com/pubs/reengineering.html>.
- Streatfield, P. J. (2001). The paradox of control in organizations. New York, Routledge.
- Strong, R. W. and E. G. Harmon (2002). Online graduate degrees: a review of three internet-based Master's degree offerings. Retrieved Sept 15, 2002 from: <http://www.ed.psu.edu/acsde/readings/annRead7abstracts.asp>.
- Strother, J. B. (2002). An assessment of the effectiveness of e-learning in corporate training programs. Retrieved Apr 12, 2004 from <http://www.irrodl.org/content/v3.1/strother.html>.
- Stuart, A. (2004). Virtual classrooms, actual education. Retrieved May 3, 2005 from <http://www.inc.com/articles/2004/03/elearning.html>.
- Sullivan, E. J. and P. J. Decker (1988). Effective management in nursing. Don Mills, Ontario, Addison-Wesley Publishing Company.
- Suntken, R. R. (1990). Areas of knowledge, optimal academic preparation, and importance of continuing education for practicing medical group managers., Northern Illinois University.
- Sussex, J. (2001). Cross-border healthcare: going nowhere. Retrieved June 28, 2003 from <http://www.hospitalmanagement.net/informer/library/library10/>.
- Sveiby, K.-E. (2001). Intellectual capital and knowledge management. Retrieved Jan 4 2005 from <http://www.sveiby.com/articles/IntellectualCapital.html>.
- Sverlinger, P.-O. M. (2000). Managing knowledge in professional service organizations: Technical consultants serving the construction industry, Chalmers Tekniska Hogskola (Sweden).
- Tanriverdi, H. (2001). Performance effects of corporate diversifications: Roles of knowledge resources, knowledge management capability and information technology, Boston University.
- Tausanidis, N. (2002). New challenges for European higher education. *Industry & Higher Education* 16 (5): 289-294.

- Tapscott, D. (1996). *The digital economy*. New York, McGraw Hill.
- Tapscott, D. and A. Caston (1993). *Paradigm shift*. New York, McGraw-Hill Inc.
- Taroni, F., R. Guerra, et al. (1998). The health care reform in Italy: transition or turmoil. *Journal of Health Humanities Service Administration* 20(4): 396-422.
- Taylor, C. R. (2002). E-learning: the second wave. Retrieved May 3, 2005 from <http://www.learningcircuits.org/2002/oct2002/taylor.html>.
- Taylor, L. (2004). *Managing academic innovation: the NHS University, UK*. IMUA 2004, Beijing.
- Taylor, R. (2001). Lifelong learning in higher education in Western Europe: myth or reality? Retrieved May 5, 2003 from [http://www.iiz-dvv.de/englisch/Publikationen/Ewb\\_ausgaben/56\\_2001/eng\\_taylor.htm](http://www.iiz-dvv.de/englisch/Publikationen/Ewb_ausgaben/56_2001/eng_taylor.htm).
- Taylor, S., R. Thorpe, et al. (2002). Negotiating managerial legitimacy in smaller organizations: management education, technical skill and situated competence. *Journal of Management Education* 26 (5): 550-573.
- Teare, R. and D. Davies (1998). *The virtual university: An action paradigm and process for workplace learning*. W. Yorkshire, MCB University Press.
- Teare, R., H. Ingram, et al. (2002). High performance learning at work. Retrieved Aug 19, 2002: <http://www.imcasocrates.org/imcass/VUs/isl/content.asp?id=106892> .
- Teare, R. and S. Monk (2002). Learning from change. Retrieved Aug 19, 2003 from <http://www.imcasocrates.org/imcass/VUS/isl/content.asp?id=106892>.
- Teare, R. and J. Neil (2002). Fast-forward to accredited corporate learning. Retrieved Aug 19, 2002 from: <http://www.imcasocrates.org/imcass/VUs/isl/content.asp?id=106892> .
- Teare, R. and D. F. Pantin (2002). Cascading organizational learning. Retrieved Aug 19, 2002 from <http://www.imcasocrates.org/imcass/VUs/isl/content.asp?id=106892>.
- Teare, R. and C. Rayner (2002). Capturing organizational learning. Retrieved Aug 19, 2002 from <http://www.imcasocrates.org/imcass/VUs/isl/content.asp?id=106892>.
- Tellis, W. (1997). Application of a case study methodology. Retrieved June 17, 2003 from <http://www.nova.edu/ssss/QR/QR3-3/tellis2.html>.
- Tellis, W. (1997). Results of a case study on information technology at a university. Retrieved June 17, 2003 from <http://www.nova.edu/ssss/QR/QR3-4/tellis3.html>.
- Tellis, W. (1997). Introduction to case study. Retrieved February 20, 2005 from <http://www.nova.edu/ssss/QR/QR3-2/tellis1.html>.
- Tello, S. F. (2002). *An analysis of the relationship between instructional interaction and student persistence in online education*, University of Massachusetts Lowell.
- Thomas, E. J. (1998). Continuing education. Retrieved May 6, 2003 from <http://www.fe.up.pt/eucen/def-cont-edu.html>.

- Thoms, K. J. (2001). They're not just big kids: motivating adult learners. Retrieved May 5, 2005 from <http://www.mtsu.edu/~itconf/proceed01/22.pdf>.
- Thorelli, H. B. (2001). Ecology of international business simulation games. *Simulation & Gaming* 32(4): 492-506.
- Timmreck, T. C. (2000). Use of the classical function of management by health services midmanagers. *The Health Care Manager* 19 (2): 50-67.
- Timony, B. (2001). The role of organization development in large-scale organizational change. Retrieved Apr 13, 2004 from <http://www.newfoundations.com/OrgTheory/Timony721.html>.
- Tobin, D. R. (1998). New roles for middle managers. Retrieved Apr 6, 2005 from <http://www.tobincls/newroles.htm>.
- Tomaskovic-Devey, D., J. Leiter, et al. (1994). Organizational survey nonresponse. *Administrative Science Quarterly*. Sept.
- Tonkin, M. P. C. (1999). The comparative effects of education and the complexity of work on adult intellectual ability, The University of Akron.
- Topper, M. H. (1981). Coping with managerial stress. Retrieved Dec.5 2004 from <http://www.airpower.maxwell.af.mil/airchronicles/aureview/1981/jul-aug/topper.htm>.
- Townsend, E., C. Camobell, et al. (2002). Accessible adult learning in the health professions: interactive uses of distance technology- Final Project Report, Dalhousie University, Nova Scotia, Canada.
- Tranriverdi, H. (2001). Performance effects of corporate diversification: Roles of knowledge resources, knowledge management capacity and information technology. Boston, Boston University.
- Treherm, S. (2002). A corporate university brings learning to life. *FT.Com*, London: 1-2.
- Treherm, S. (2002). More than just a learning process: corporate viewpoint. *Financial Times*, London: 4-7.
- Tresman, S. (2002). Towards a strategy for improved student retention in programmes of open, distance education: a case study from the Open University UK. Retrieved Apr 12, 2004 from [http://www.irrodl.org/content/v3.1/tresman\\_rn.html](http://www.irrodl.org/content/v3.1/tresman_rn.html).
- Trochim, W. M. K. (1999). Estimating financial returns of performance interventions. Retrieved Sept 9, 2002 from: <http://www.conceptsystems.com/papers/whitepapers/roi/ROlinPM.html>.
- Trochim, W. M. K. (2002). Ethics in research. Retrieved Mar 16, 2005 from <http://www.socialresearchmethods.net/kb/ethics.htm>.
- Truss, K. and F. O'Callaghan (n.d.). Experiences of management careers in the NHS. Retrieved June 8, 2005 from <http://business.king.ac.uk/research/shape/nhscar.pdf>. 2005.

- Tuchtenhagen, A. J. (2002). New providers in higher education: Higher education for the workforce in the new economy, Hamline University.
- Tucker, R. (1999). Return-on-investment (ROI) analysis of education and training in the construction industry. Retrieved Oct 22, 2003 from <http://www.cdc.gov/elcosh/docs/d0100/d000132/d000132.html>.
- Tucker, S. (2001). Distance education: better, worse, or as good as traditional education? *Online Journal of Distance Learning Administration IV(IV)*.
- Tuohy, C. H. (2001). The political economy of health care reform: a cross-national analysis. Toronto, Ontario, Department of Political Science, University of Toronto.
- Urdan, T. A. and C. C. Weggen (2000). Corporate e-learning: exploring a new frontier, W.R. Hambrecht & Co.
- Vail, S. (2001). Canadians' values and attitudes on Canada's health care system: a synthesis of survey results, The Conference Board of Canada.
- Valcke, M. M. and F. I. Leeuw (n.d.). Evaluating digital distance learning programs and activities., World Bank Institute of the World Bank.
- Valenta, A., D. Therriault, et al. (n.d.). Identifying student attitudes and learning styles in distance education. Retrieved Mar 23, 2003 from [http://www.sloan-c.org/publications/jaln/v5n2\\_valenta.asp](http://www.sloan-c.org/publications/jaln/v5n2_valenta.asp).
- van de Ven, W. P. M. M. and F. T. Schut (2000). The first decade of market oriented health care reforms in the Netherlands, Institute of Health Care Policy and Management, Erasmus University Rotterdam.
- van der Kamp, M., M. Slagter, et al. (2002). The role of higher education in lifelong learning: the Dutch case. *Journal of Continuing Higher Education* 50(1): 37-44.
- van der Vleugel, H., J. Gerrissen, et al. (n.d.). Modes of personal and organizational learning in virtual business teams. Retrieved Mar 3, 2003 from <http://www.enable.evitech.fi/enable99/papers/vleugel/vleugel.html>.
- Van Der Weyden, M. B. (2003). Australian healthcare reform: in need of political courage and champions. *The Medical Journal of Australian* 179 (6): 280-281.
- Van Staden, P. J. (1998). The nature and dynamics of the learning process during management training and development, University of Pretoria (South Africa).
- Vance, S. and A. Bosworth (2003). Replicating reality: the power of simulations. Salt Lake City, Allen Communications Learning Services.
- Vasarhelyi, M. A. and L. Graham (1997). Cybersmart: education and the Internet. Retrieved Mar 29, 2003 from <http://www.imastudents.org/library/miklos.html>.
- Vawdrey, R. (2005). Focused on health reform. Retrieved September 21, 2005 from <http://www.fujitsu.com/au/interaction/archives/2005/200502-01.html>.
- Vernon, T. L. (1999). The Techno-MBA: One alternative for knowledge workers, University of Pennsylvania.

- Villano, M. (2000). The waiting game. Retrieved Aug 7, 2003 from [http://www.cio.com/archive/051500\\_health.html](http://www.cio.com/archive/051500_health.html).
- Vinn, N. E. (2000). The emergence of consumer-driven health care. *Family Practice Management* (January).
- Vitello, J. (2001). New roles for corporate universities. Retrieved Oct 24, 2003 from <http://www.computerworld.com/careertopics/careers/story/0,10801,59312,00.html>.
- Vrasidas, C. and M. S. McIsaac (2002). Factors influencing interaction in an online course. Retrieved Sept 15, 2002 from: <http://www.ed.psu.edu/acsde/readings/annRead7abstracts.asp> .
- Waldrop, M. M. (1992). *Complexity: the emerging science at the edge of chaos*. New York, Simon & Shuster.
- Wallace, J. E. (1998). Concepts of andragogy in an executive MBA program. Virginia, Columbia University Teachers College.
- Walliker, P. T. (2005). Cost comparison: instructor-led vs e-learning. Retrieved July 25, 2005 from <http://www.learningcircuits.org/2005/jun2005/walliker.htm>.
- Walter, J. H. (n.d.). Shifting the paradigm: A managerial plan of effective downsizing. Retrieved Mar 16, 2003 from: <http://icdl.uncg.edu/ft/040300-01.html> .
- Watters, K. (2002). Able to learn 'just for the hell of it!' Retrieved Aug 26, 2002 from: [http://web12.epnet.com/citation.asp?tb=1&\\_ug=db+ln%2Dus+sid+06F6184D%2](http://web12.epnet.com/citation.asp?tb=1&_ug=db+ln%2Dus+sid+06F6184D%2).
- Weatherald, C. and D. Taylor (2002). Higher education: the future for adults? Retrieved Aug 26, 2002 from: [http://web12.epnet.com/citation.asp?tb=1&\\_ug=db+1+ln+en%2Dus+sid+FC18DB2E%2](http://web12.epnet.com/citation.asp?tb=1&_ug=db+1+ln+en%2Dus+sid+FC18DB2E%2) .
- Weaver, D. and B. Ringhouse (1997). Supporting excellence in turbulent times. *Nursing Economist*. 15: 301-305.
- Webber, A. M. (1999). Learning for a change. Retrieved Aug 15, 2003 from <http://www.fastcompany.com/online/24/senge.html>.
- Webster, N. (1985). *New Webster's dictionary of the English language*. Lexicon Publications.
- Weiger, P. R. (1998). What a tangled (World Wide) Web we weave.... *Community College Week* 10 (22): 2-4.
- Weil, T. P. (2003). Hospital downsizing and workforce reduction strategies: some inner workings. *Health Services Management Research* 16 (1): 13-23.
- Weiss, W. H. (2002). Managing in a changing world. *SuperVision* 63 (7): 17-20.
- Werner, T. (2002). Change management and e-learning. Retrieved July 26, 2002 from: <http://www.brandon-hall.com/whitpaponcha.html>.
- Werry, C. (2001). The work of education in the age of e-college. Retrieved June 18, 2003 from [http://firstmonday.org/issues/issue6\\_5/werry/](http://firstmonday.org/issues/issue6_5/werry/).

- Westera, W. and P. B. Sloep (2000). The future of education in cyberspace. Retrieved June 26, 2003 from [http://www.ou.nl/open/psl/Publicaties/artikelCybereducation00/index\\_Cybereducation00.html](http://www.ou.nl/open/psl/Publicaties/artikelCybereducation00/index_Cybereducation00.html)
- Weston, L. P. (2003). Is a degree worth a million bucks? Retrieved Jan 3, 2004 from <http://msnbc.msn.com/Default.asp?id=3226038&p1=0>.
- Wheatley, M. J. (1992). Making friends with confusion and chaos. *At Work*(May/June): 15-17.
- Wheatley, M. J. (1993). An escape from information overload. *At Work*(May/June): 9-11.
- Wheatley, M. J. (1994). Leadership and the new science: Learning about organization from an orderly universe. San Francisco, Berrett-Koehler Publishers.
- Whiteman, J. A. (1993). Response of community pharmacists to a distance learning initiative on health screening, Queen's University of Belfast (Northern Ireland).
- Wiley, D. A. (n.d.). Connecting learning objects to instructional design theory: a definition, a metaphor, and a taxonomy, Utah State University, Digital Learning Environments Research Group, The Edumetrics Institute, Emma Eccles Jones Education.
- Williams, D. (2001). Transitions: managing personal and organizational change. Retrieved May 12, 2003 from <http://www.eoslifework.co.uk/transmgmtl.htm>.
- Williams, V. (n.d.). Designing simulation for learning. Retrieved Feb 15, 2004 from [http://www.usq.edu.au/electpub/e-jist/docs/Vol6\\_No1/designing\\_simulations\\_for\\_learn.htm](http://www.usq.edu.au/electpub/e-jist/docs/Vol6_No1/designing_simulations_for_learn.htm).
- Winch, A. and H. Ingram (2002). Re-defining the focus of workplace learning. Retrieved Aug 12, 2002 from: <http://www.imcasocrates.org/imcass/VUs/isl/content.asp?id=106892> .
- Wingard, J. M. (2000). Corporate education and new information technologies: Executive perceptions of implementation barriers, University of Pennsylvania.
- Winston, B. (2004). A future scenario for education with distance education as a major component. Association of Management/International Association of Management 2004 Conference.
- Witteloostuijn, A. v. (2000). Organizational ecology has a bright future. Retrieved Apr 4, 2003 from: [http://www.finarticles.com/cf\\_0/m4339/2\\_21/65379537/print.jhtml](http://www.finarticles.com/cf_0/m4339/2_21/65379537/print.jhtml).
- Wood, H. (2005). Organization evolution: the natural change model for organizational structure in changing times. *Organizational Development Journal* (Summer 2005).
- Woodward, D., N. Drager, et al. (2002). Globalization, global public goods and health. Retrieved May 23, 2005 from <http://www.who.int/trade/resource/THS/en/>.
- Yeomans, K. (1996). Electronic campuses-a challenge to existing HEIs. Retrieved Aug 17, 2003 from <https://www.ilt.ac.uk/public/cti/ActiveLearning/issue2/yeomans/yeo1.html>.



- Young, J. R. (1997). Rethinking the role of the professor in an age of high-tech tools. *The Chronicle of Higher Education*: 9-13.
- Young, J. R. (1998). Sceptical academics see perils in information technology. *The Chronicle of Higher Education* (May 8, 1998): 14-16.
- Yun, G. W. and C. W. Trumbo (2000). Comparative response to a survey executed by post, e-mail, & web form. *Journal of Computer-Mediated Communication* 6 (1).
- Zidle, M. (1998). Managers need to address the human side of business reorganization. (1998) Retrieved Mar 16, 2003 from <http://www.caller2.com/autoconv/bizus98/bizus52.html>.
- Zuber-Skerritt, O. (1995). Developing a learning organization through management education by action. *The Learning Organization*. 2,2: 36-46

## Appendix A

### *Descriptions/definitions of Key Study Terms*

**Adult learners:** Depending on the country, adult learners are defined as those who are twenty-five years and older in North America, twenty-one years and older in United Kingdom and twenty-three years and older in Ireland (Kelly n.d.:1). The adult learners in this study, health care managers, at the time of the study were all employed in the health industry in British Columbia. Like other adult learners, health care managers, bring a wealth of life experience to learning, are time conscious, highly motivated and prefer to work on specific learning goals. According to Kelly, adults want control of their own learning which includes locating appropriate resources, deciding on which learning methods to use, and evaluating their own progress (Kelly n.d.:2). For the purpose of this study the focus will be on adult-centered, work-related learning designed to increase management knowledge and skills.

**Competencies:** A competency approach to management education is prevalent in many organizations. Health industry management competencies are defined by MacKinnon, Chow et al as:

....the knowledge, skills and abilities (sometimes attitudes and aptitudes) needed to manage, lead and direct others, and help managers and executives lead others in a dynamic, ever-changing culture of healthcare and delivery (MacKinnon, Chow et al. 2004:15).

In this study, a list of fourteen competencies familiar to health care managers are used to obtain an understanding of the current skill needs of health care managers in today's changing health industry.

**Complexity theory:** Complexity and chaos theory have moved from the natural to the social domain and is now being presented in organizational and management studies. Rosenhead refers to complexity theory as:

....being concerned with the behaviour over time of certain kinds of complex systems. The systems of interest are dynamic systems – systems capable of changing over time – and the concern is with the predictability of their behaviour (Rosenhead 1998:2-4).

In such thinking, the unpredictability of systems is promoted as the best state for organizational creativity, growth and learning. According to complexity writers, such unpredictability in

organizations makes learning imperative (Rosenhead 1998:4). Whether health care managers agree or disagree with such theory, it is important for them to consider such thinking as they reexamine their changing and complex working environment and their need for new skills.

**Formal learning:** Hodkinson describes formal learning as “what occurs when a teacher has the authority to determine that people designated as requiring knowledge effectively learn a curriculum taken from a pre-established body of knowledge”. He characterizes such learning as having such features as: a prescribed learning framework, an organized learning event or package, the presence of a designated teacher or trainer, the award of a qualification or credit and the external specification of outcomes (Hodkinson 2002:7 & 8). In this study formal learning will be discussed with regard to the education programs provided by Health Authorities and Higher Education often delivered in a classroom setting under the direction of an instructor.

**Knowledge sharing:** According to Gurteen “the creation and application of new knowledge is essential to the survival of almost all businesses”. He says that in creating a knowledge sharing culture, people need to work together more effectively, to collaborate and to share – ultimately to make organizational knowledge more productive. He says:

If people understand that sharing their knowledge helps them do their jobs more effectively; helps them retain their jobs; helps them in their personal development and career progression; rewards them for getting things done (not for blind sharing); and brings more personal recognition, then knowledge sharing will become a reality(Gurteen 1999:2 & 3).

In this study this knowledge sharing concept is used to describe one aspect of e-learning for health care managers.

**Lifelong learning:** According to the European Commission lifelong learning is not only learning from pre-school to post-retirement but also encompasses the whole spectrum of formal, non-formal and informal learning. It also includes “the objectives of active citizenship, personal fulfillment, social inclusion and employment-related aspects”. Its principles include “the centrality of the learner, equal opportunities and the quality of relevance of learning opportunities”(2001:3 & 4). In this study the concept of lifelong learning is primarily focused on continuous mid-career learning for health care managers.

**Managers or leaders:** As health reform has evolved, one of the main questions was whether the industry was in need of more managers or more leaders, and what was the difference. The differences between managers and leaders is subtle, and in today’s changing environment the “best” learn to use management, leadership or a combination of such skills when appropriate. Thomas, a professor at the Harvard Business School, pointed out that “increasingly, the

people who are the most effective are those who essentially are both managers and leaders”. Blagg and Young stated that leaders are seen as those who are good communicators, can distill their message however complex, remain committed despite setbacks, be trustworthy, able to face problems head on, and able to empower and motivate others (cited in Blagg and Young 2001:1). Colvard describes the differences between management and leadership as: Management is focused on the short-term, deals with complexity, concerned with facts, answers or solutions, creates policies and ensures resources are used effectively. Leadership is focused on the long term, deals with uncertainty; makes decisions, and focuses on effectiveness and provides vision (Colvard 2003:1). In this study it is not either management or leadership, but a combination of skills which each health care leader/manager needs in order to provide quality health care services within a changeable environment. Thus, management and leadership are regarded as a continuum of the skills needed by all health care managers.

***Non-formal learning:*** Hodkinson describes non-formal learning as occurring when learners opt to acquire further knowledge or skill by studying voluntarily with a teacher who assists their self-determined interests, by using an organized curriculum, as in the case in many adult education courses and workshops (Hodkinson 2002:8). In this study education programs provided in the health organizations (i.e. in-service, workshops and seminars) are considered non-formal education. No academic credit is usually provided for such learning.

***Organizational change:*** The concept of organizational change, according to McNamara, when used in business and management literature usually refers to planned, organization-wide change. He says that a common form of organization change is downsizing (sometimes called “restructuring” or “rightsizing”). Another common form is to outsource major functions, that is, to hire another organization(s) to carry out the functions (McNamara 1999:1 & 2). In this study organization change is focused on change occurring in health organizations in British Columbia.

***Organizational learning:*** Smith describes ‘organizational learning’ as the “activity and the process by which organizations eventually reach the ideal of a learning organization. Learning organizations are described as “organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free and where people are continually learning to see the whole together”(Smith 2001:2 & 3). Schon, who links increasing change with the need for learning, notes:

The loss of the stable state means that our society and all of its institutions are in continuous processes of transformation. We cannot expect new stable states that will endure for our own lifetimes.

We must learn to understand, guide, influence and manage these transformations. We must make the capacity for understanding them integral to ourselves and to our institutions.

We must, in other words, become adept at learning. We must become able not only to transform our institutions, in response to changing situations and requirements; we must invent and develop institutions which are 'learning systems', that is to say, systems capable of bringing about their own continuing transformation(cited in Smith 2001:2)

In this study it is this organizational learning concept which underlies the proposed e-learning strategy for health care managers.

## Appendix B

### A Comparison of Management Competency Lists

Topics		This Study	CCHSE	IHA	US Vets	Banff
<b>Leadership</b>	Leadership	X	X			
	Governance & Management	X		X		
<b>Environment</b>	Change & Complexity	X				
	Environmental & Risk Management	X				
	Political & Environmental Awareness		X			
	Futuring					X
<b>Quality</b>	Quality Improvement	X				
	Customer Service				X	
	Consumer/Customer Relations		X			
	Compliance to standards		X			
<b>Resources</b>	Resource Management		X			
	Human Resource Management	X				
	Contract Management	X				
	Conflict Management	X		X		
	Financial Analysis	X				
<b>Relationships</b>	Interpersonal Effectiveness				X	
	Building Bonds			X		
	Aligning People to Action					X
<b>Implementation</b>	Project Management	X				
	Results management		X			
<b>Evaluation</b>	Evaluating Management Plans	X				
<b>Technical</b>	Evidence-based Management	X				
	Use of statistics	X				
	Communications & IT	X	X	X		
	Technical Competency			X	X	
<b>Accountability</b>	Organizational Stewardship/Accountability				X	
<b>Cognitive</b>	Conceptual Skills		X			
	Flexibility/Adaptability			X	X	
	Creative Thinking				X	
	Systems Thinking				X	
	Sense Making					X
	Developing Intelligent Action					X
<b>Personal Awareness</b>	Emotional Self-awareness			X		
	Accurate Self-Awareness			X		
	Self-Confidence			X		
	Personal Mastery				X	
	Self Mastery					X
<b>Learning</b>	Lifelong learning		X			
	Developing Others			X		
	Adaptive Learning					X

Appendix B (continue)

<b>Personal Awareness</b>	Emotional Self-awareness			<b>X</b>		
	Accurate Self-Awareness			<b>X</b>		
	Self-Confidence			<b>X</b>		
	Personal Mastery				<b>X</b>	
	Self Mastery					<b>X</b>
<b>Learning</b>	Lifelong learning		<b>X</b>			
	Developing Others			<b>X</b>		
	Adaptive Learning					<b>X</b>

## Appendix C

### British Columbia: Higher Education Management Programs

Higher Education	Management Programs	Comments
<b>British Columbia Institute of Technology (BCIT)</b>	<b>Bachelor of Technology in Management - Health Specialty</b>	Courses include: communication, building relationships, health care law, labour relations, health care systems, leadership roles, teamwork, change management, resource management, financial & operational performance.
	<b>Certificate: Health Care Management Level 1</b>	Health care focus with courses in organizational behaviour, human resource management, labour relations, financial planning, conflict management, managing change, team building, leadership, management principles & coaching skills.
	<b>Certificate: Health Care Management Level 2</b>	Health care focus with courses in information systems, health care law, quality management, an integrative project and continuation of Level 1 topics.
	<b>Certificate: Health Care Quality Management</b>	Health care focus to help manage & lead quality improvement initiatives. Courses include: project management, teams and innovation & technology change.
	Advanced specialty certificate: Health Informatics Technology Management	Health informatics & technology management focus.
<b>Malaspina University-College</b>	MBA	Prior to entering, students must complete an 8 week Management Foundation Program. Courses include: finances, HR, strategic management, marketing, operations management, information systems, leadership, complexity and managing knowledge.
	MBA International	
	Bachelor of Business Administration	Courses concentrate on: accounting, e-management, financial services, management & marketing
	Diploma in Business Administration	Courses include: finances, computer application, marketing, organizational behaviour, microeconomics. E-management, management,
	<b>Diploma: Continuing Health Care Administration</b>	Courses include: policies & issues in health care, managing, HR, accounting, legal & ethical issues, nutrition, gerontology, quality assurance, and accounting.. A residency requirement.
	Certificate in Business Management	Courses include: microeconomics, accounting, management, & marketing
<b>Royal Roads University</b>	MBA in Executive Management with specialization in <b>*Leadership</b> <b>*Education Administration</b> <b>*Global Aviation Management</b> <b>*Management Consulting</b>	Health Care Managers are directed towards a tailored 'Leadership & Training' MBA Program. The program takes in 30 students/yr. Courses include: learning community, change, leadership, systems thinking, community leadership, leadership & consultancy, learning theory, resolving conflicts, shared vision, sustainability. Includes a major project.
	MBA in Human Resource Management	
	Certificate: Human Resource Management	
	Certificate: Contract Management	
	Certificate: Project Management	



Appendix C (continue)

<b>Simon Fraser University</b>	PhD Program	Specialist MBA programs designed for Business & Commerce undergraduates. Also includes a residency requirement & a Candidacy exam.
	Executive MBA	
	MBA programs *Global Asset & Wealth Management *Management of Technology *International Business *Leadership & Organizational Change *Marketing	
	Graduate Diploma in Business Administration	
<b>The University of British Columbia</b>	MBA programs with specialization in: *Entrepreneurship *Finance *Information Technology & Management *Marketing *Organizational Behaviour & Human Resources *Strategic Management *Supply Chain Management	Mainly designed for the business community.
	MBA Sub-specialization in *e-business *International Business	
	Master of Management (MM) with specialization in: *Management Information Systems *Operational Research *Transportation & Logistics	
<b>University of Victoria</b>	MBA with specialization in: *Entrepreneurship *Service Management (? Nothing on web) *International Business & Management	Mainly designed for the business community.
	Diploma in Business Administration (DBA)	
	Certificate in Business Administration (CBA)	
	The School of Public Administration offers: *Master in Public Administration (MPA) *Diploma programs in Public Sector & Local Government Management Certificate in Public Management	Designed for those working in government jobs.
<b>Open Learning Agency</b>	Bachelor of Business Administration (Concentration in Management) with courses in *Computer Information Systems *General Business *Public Sector Management *Technology Management	Designed for students in a supervisory or management position. Courses include: economics, accounting, marketing, organizational behaviour, industrial relations, business law, business policy, management principles etc.
	Advanced Diploma in Management	Courses include: business mathematics, communications, accounting, information technology, marketing, & general business. Includes a residency requirement.
	Diploma in Management Studies	
	Advanced Certificate in Management Certificate in Management Studies	

Appendix C (continue)

<b>Camosun College</b>	Diploma: Business Administration with specialization in: *Hotel & Restaurant Management *Human Resource Management *Public Administration	Courses include: accounting, finance, management, marketing & tourism management.
	Certificate: Business Management + Dispute Resolution at Work Professional Accounting	
<b>College of the Rockies</b>	Certificate: Leadership Skills in Management	Courses include: effective selling, HR, communications, leadership,
<b>Capilano College</b>	Bachelor of Business Administration	Courses include: accounting, finance, strategic management, marketing
	Diploma in Business Administration with specialization	
<b>Douglas College</b>	Diploma: Business Management	Courses include: small business management, management, supervisory, business law, HR management, business statistics, enterprise management, business planning, business law, labour relations,
	Diploma: Financial Services Studies	
	Citation Program: Financial Services	
	Certificate: General Business	
	Certificate: New Venture Management	
<b>Kwantlen University College</b>	Degree: Business Administration	Courses include: organizational behaviour, negotiations, business law, management, business planning, international business, economics, accounting, marketing, statistics, HR and information management.
	Diploma: Business Administration	
	Certificate: Business Administration	
<b>Northwest Community College</b>	Degree: Business Administration	Courses include: accounting, organizational behaviour, human resources, labour relations, tourism, international business, and electronic commerce,
	Diploma: Business Administration	
	Certificate: Business Administration	
<b>Selkirk College</b>	Diploma: Business Administration - Management	Specialities in Accounting/Finance or Professional Management
<b>Okanagan University College</b>	Bachelor of Business Administration with options in: *Accounting *Financial Services *Hospitality Management *Human resource Management *Management *Marketing *Revenue Management *General Studies	Designed for the retail & hospitality markets.
	Diploma in Business Administration	
<b>Nicola Valley Institute of Technology</b>	Diploma: Business Administration	Includes such courses as: accounting, community development, computing systems, organizational behaviour, leadership & problem solving, technical communications, marketing, economics and business law.
	Certificate: Business Administration	Similar courses as in diploma.

Appendix C (continue)

<b>Justice Institute of BC (JIBC)</b>	Courses for executives & senior managers	Include such topics as:building relationships, managing difficult conversationsmanaging conflict & leadership for the real world.
<b>Langara College</b>	No business or management programs	
<b>College of New Caledonia</b>		
<b>North Island College</b>		
<b>Northern Lights College</b>		
<b>University College of the Cariboo</b>		
<b>University College of the Fraser Valley</b>		
<b>University of Northern BC</b>		
<b>Vancouver Community College</b>		

## Appendix C

### British Columbia: Higher Education Management Programs

Higher Education	Management Programs	Comments
<b>British Columbia Institute of Technology (BCIT)</b>	<b>Bachelor of Technology in Management - Health Specialty</b>	Courses include: communication, building relationships, health care law, labour relations, health care systems, leadership roles, teamwork, change management, resource management, financial & operational performance.
	<b>Certificate: Health Care Management Level 1</b>	Health care focus with courses in organizational behaviour, human resource management, labour relations, financial planning, conflict management, managing change, team building, leadership, management principles & coaching skills.
	<b>Certificate: Health Care Management Level 2</b>	Health care focus with courses in information systems, health care law, quality management, an integrative project and continuation of Level 1 topics.
	<b>Certificate: Health Care Quality Management</b>	Health care focus to help manage & lead quality improvement initiatives. Courses include: project management, teams and innovation & technology change.
	Advanced specialty certificate: Health Informatics Technology Management	Health informatics & technology management focus.
<b>Malaspina University-College</b>	MBA	Prior to entering, students must complete an 8 week Management Foundation Program. Courses include: finances, HR, strategic management, marketing, operations management, information systems, leadership, complexity and managing knowledge.
	MBA International	
	Bachelor of Business Administration	Courses concentrate on: accounting, e-management, financial services, management & marketing
	Diploma in Business Administration	Courses include: finances, computer application, marketing, organizational behaviour, microeconomics. E-management, management,
	<b>Diploma: Continuing Health Care Administration</b>	Courses include: policies & issues in health care, managing, HR, accounting, legal & ethical issues, nutrition, gerontology, quality assurance, and accounting.. A residency requirement.
	Certificate in Business Management	Courses include: microeconomics, accounting, management, & marketing
<b>Royal Roads University</b>	MBA in Executive Management with specialization in <b>*Leadership</b> <b>*Education Administration</b> <b>*Global Aviation Management</b> <b>*Management Consulting</b>	Health Care Managers are directed towards a tailored 'Leadership & Training' MBA Program. The program takes in 30 students/yr. Courses include: learning community, change, leadership, systems thinking, community leadership, leadership & consultancy, learning theory, resolving conflicts, shared vision, sustainability. Includes a major project.
	MBA in Human Resource Management	
	Certificate: Human Resource Management	
	Certificate: Contract Management	
	Certificate: Project Management	

Appendix C (continue)

<b>Simon Fraser University</b>	PhD Program	Specialist MBA programs designed for Business & Commerce undergraduates. Also includes a residency requirement & a Candidacy exam.
	Executive MBA	
	MBA programs *Global Asset & Wealth Management *Management of Technology *International Business *Leadership & Organizational Change *Marketing	
	Graduate Diploma in Business Administration	
<b>The University of British Columbia</b>	MBA programs with specialization in: *Entrepreneurship *Finance *Information Technology & Management *Marketing *Organizational Behaviour & Human Resources *Strategic Management *Supply Chain Management	Mainly designed for the business community.
	MBA Sub-specialization in *e-business *International Business	
	Master of Management (MM) with specialization in: *Management Information Systems *Operational Research *Transportation & Logistics	
<b>University of Victoria</b>	MBA with specialization in: *Entrepreneurship *Service Management (? Nothing on web) *International Business & Management	Mainly designed for the business community.
	Diploma in Business Administration (DBA)	
	Certificate in Business Administration (CBA)	
	The School of Public Administration offers: *Master in Public Administration (MPA) *Diploma programs in Public Sector & Local Government Management Certificate in Public Management	Designed for those working in government jobs.
<b>Open Learning Agency</b>	Bachelor of Business Administration (Concentration in Management) with courses in *Computer Information Systems *General Business *Public Sector Management *Technology Management	Designed for students in a supervisory or management position. Courses include: economics, accounting, marketing, organizational behaviour, industrial relations, business law, business policy, management principles etc.
	Advanced Diploma in Management	Courses include: business mathematics, communications, accounting, information technology, marketing, & general business. Includes a residency requirement.
	Diploma in Management Studies	
	Advanced Certificate in Management Certificate in Management Studies	

Appendix C (continue)

<b>Camosun College</b>	Diploma: Business Administration with specialization in: *Hotel & Restaurant Management *Human Resource Management *Public Administration	Courses include: accounting, finance, management, marketing & tourism management.
	Certificate: Business Management + Dispute Resolution at Work Professional Accounting	
<b>College of the Rockies</b>	Certificate: Leadership Skills in Management	Courses include: effective selling, HR, communications, leadership,
<b>Capilano College</b>	Bachelor of Business Administration	Courses include: accounting, finance, strategic management, marketing
	Diploma in Business Administration with specialization	
<b>Douglas College</b>	Diploma: Business Management	Courses include: small business management, management, supervisory, business law, HR management, business statistics, enterprise management, business planning, business law, labour relations,
	Diploma: Financial Services Studies	
	Citation Program: Financial Services	
	Certificate: General Business	
	Certificate: New Venture Management	
<b>Kwantlen University College</b>	Degree: Business Administration	Courses include: organizational behaviour, negotiations, business law, management, business planning, international business, economics, accounting, marketing, statistics, HR and information management.
	Diploma: Business Administration	
	Certificate: Business Administration	
<b>Northwest Community College</b>	Degree: Business Administration	Courses include: accounting, organizational behaviour, human resources, labour relations, tourism, international business, and electronic commerce,
	Diploma: Business Administration	
	Certificate: Business Administration	
<b>Selkirk College</b>	Diploma: Business Administration - Management	Specialities in Accounting/Finance or Professional Management
<b>Okanagan University College</b>	Bachelor of Business Administration with options in: *Accounting *Financial Services *Hospitality Management *Human resource Management *Management *Marketing *Revenue Management *General Studies	Designed for the retail & hospitality markets.
	Diploma in Business Administration	
<b>Nicola Valley Institute of Technology</b>	Diploma: Business Administration	Includes such courses as: accounting, community development, computing systems, organizational behaviour, leadership & problem solving, technical communications, marketing, economics and business law.
	Certificate: Business Administration	Similar courses as in diploma.

Appendix C (continue)

<b>Justice Institute of BC (JIBC)</b>	Courses for executives & senior managers	Include such topics as:building relationships, managing difficult conversationsmanaging conflict & leadership for the real world.
<b>Langara College</b>	No business or management programs	
<b>College of New Caledonia</b>		
<b>North Island College</b>		
<b>Northern Lights College</b>		
<b>University College of the Cariboo</b>		
<b>University College of the Fraser Valley</b>		
<b>University of Northern BC</b>		
<b>Vancouver Community College</b>		

## Appendix D

### Executive Summary

#### Management Education Needs and Delivery Options for Health Care Managers

In the Spring of 2004, the six Health Authorities in British Columbia (BC) were approached to participate in a web-based PhD research 'Management Education Needs and Delivery Options for Health Care Managers' survey.

2,930 health care managers were contacted by e-mail, and 458 (15.6%) responded. The majority of respondents were female (73%), over 45 years of age (71%), had an undergraduate degree (77%), had a post-graduate degree (53%) had taken a management course in the last three years (80%), and were from the program/unit level of management (60%).

Respondents provided information on the following:

**Competencies:** Of the 14 competencies identified in the survey, a majority of respondents did not have training in 8 which were; evidence-based management, governance and policy development, evaluating management plans, environmental and risk management, financial analysis, project management, contract management and use of statistics. In-service and/or seminars/workshop programs were common sources of skill training for many managers.

**Why management courses are not meeting current needs:** Respondents indicated that some management courses were outdated, were not at a high enough level, did not address their learning style, were not practical, were not specific to the health industry, were not keeping pace with change, and newly acquired skills were not used quickly enough.

**Competency education in the next 24 months:** A prioritized competency list is provided with the following top three topics: evidence-based management, change and complexity and financial analysis. This prioritized list and additional competencies provides an insight into the current skill needs of managers.

**Distance and online education:** The majority of respondents have had experience with distance education, and females and those under 41 had the most experience with online learning. Those familiar with online learning identified the three main advantages to be convenience, flexibility and accessibility. The majority of respondents indicated they had the requisite computer and internet skills to study online.

**Reasons why online education was not chosen:** Respondents identified such reasons as preferring a different education delivery option, technology issues, and 47% were either unaware of such courses or never thought of it.

**Credit for experience and education:** The majority of respondents want academic credit for their experience and study.

The issues identified:

**Succession management:** With 71% of the respondents in this survey over 45 years of age, the need for succession planning throughout the health industry is considerable.



***Time and incentives:*** To retain the current managers and attract new managers into leadership positions, efforts are needed to free up management time for education and to provide incentives to encourage managers to pursue further education.

***Speed of change:*** Change and complexity of the working environment are increasing the obsolescence of knowledge and skills and new expectations are demanding more multi-skilled managers.

***Health industry focused:*** With ongoing change and complexity in the health industry, education courses should have a corporate health industry focus on service and client needs. This is not always evident in programs provided outside the Health Authority.

***Choice in learning:*** In education, managers should have access to education assessment and counseling services and have options in deciding their education path and delivery method. A greater number of management online programs should be made available for managers.

***Corporate education initiative:*** To consolidate all education and raise its profile the concept of a corporate university or a new partnership between health and higher education, should be explored with leadership education being its flagship program.

Leadership education in the health industry needs to change. Managers, and those responsible for management activities, at all levels within the corporation, need to have an educational environment which supports their learning objectives, encourages their efforts and provides them with a variety of education options.

To maximize the education effort, programs should have a health industry focus, provide outcome assurances of practical skills, store project and research information in a database for easy access by managers, and managers should decide what operational research should be undertaken.

The health industry must act now to address its future leadership needs.

## Appendix E

### B.C. Health Management Education Survey

*Dear Health Care Manager;*

The purpose of this web-based survey is to assess the level of management education health care managers in BC have already received and determine what is needed to meet their new responsibilities which have emerged from recent organizational changes.

This survey is being conducted as part of a PhD thesis for Sally Robertson, a resident of BC, under the supervision of Dr. Matthew Allen of Curtin University of Technology, Perth, Australia. The data obtained is intended to provide a management education profile for human resource planning at both the provincial and health authority levels.

This web-survey should take about **20 minutes**.

Each participant will receive the dedicated web site address with their e-mail invitation. Each response is completely anonymous. The survey data, submitted directly to the external website, will be sent to the researcher's computer and imported into a survey software database. No participant's name is recorded. No one will see your survey response. The data will be collected and analyzed by the researcher and stored in the researcher's database and at Curtin University of Technology for 5 years. Only the researcher and Curtin University will have access to this information.

By completing and returning this survey, it is assumed the participant is giving full consent.

Should you require any further information on the survey, you can contact Sally Robertson at [merwbc@shaw.ca](mailto:merwbc@shaw.ca).

This study has been approved by the Curtin University Human Research Ethics Committee. If needed, verification of approval can be obtained by writing to the Curtin University Human Research Ethics Committee c/o Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth, 6845 or through the internet at <http://research.curtin.edu.au/ethics/ethics.htm1#HREC>

#### **Management Role & Demographics**

*In questions 1-5 we are seeking basic demographic information.*

1. For which Health Authority do you currently work?

- Vancouver/Coastal
- Vancouver Island
- Fraser
- Interior
- Northern
- Provincial Services
- Other

2. What is the postal code of your work site?

---

3. What is your current management level?

- Executive
- Regional
- Program/Unit
- None of the above

4. What is your age group?

- 25 years and under
- 26-30
- 31-35
- 36-40
- 41-45
- 46-50
- 51-55
- 56+

5. What is your gender?

- Male
- Female

### **Prior Education**

*In questions 6-8, we want to identify the area(s) where you have acquired formal bachelor, master's, PhD or other qualifications.*

6. In this question we would like you to identify your **basic undergraduate degree** (or your first degree) area of study.

- No degree
- Arts
- Science
- Nursing
- Laboratory technology
- Nutrition
- Management
- Medicine
- Pharmacy
- Social Work
- Rehabilitation (Physiotherapy or Occupational Therapy)
- X-Ray technology
- Education
- Business, commerce or administration
- Public Administration
- Mathematics
- Computer Science
- Engineering
- Other \_\_\_\_\_

7. If you have a higher qualification at the master's or PhD level, select from the list below the one which **best describes** your area of study. **If this does not apply to you, go to Question 8.**

- Arts
- Science
- Nursing
- Nutrition
- Medicine
- Pharmacy
- Social Work
- Rehabilitation (PT or OT)
- Education
- Business, commerce or administration
- Public Administration
- Mathematics
- Computer Science
- Engineering
- Other \_\_\_\_\_

8. When was your last management education course. (*This could include in-service training*)

- In the last 12 months
- In the last 2 years
- In the last 3 years
- In the last 4 years
- More than 7 years
- Never

### **Management Skills**

**Questions 9-11 list competencies that reflect health care management job descriptions. Sources referred to in creating this list are some of the Canadian Council on Health Services Accreditation (Achieving Improved Measurement: AIM) standards, used to assess Health Authorities, and the professional competencies identified by the Canadian College of Health Service Executives for leaders in health service organizations.**

9. In this question, we would like you to identify the learning formats you used to acquire the management competencies specified below. Competencies are the knowledge, skills and attitudes which enable personnel to carry out their tasks with maximum effectiveness.

#### **Definitions & Instructions**

- 1) **No course** - If you have not taken any management education courses, click the first button 'no course' for each competency identified.
- 2) **Highest level** - Identify the highest level of learning for each competency identified..
- 3) **Inservice** - A program of planned educational activities designed to increase the competencies needed by personnel in the performance of their professional responsibilities and usually provided by the organization in which they are employed.
- 4) **Workshop/Seminar**- A brief intensive course for a small group which usually emphasizes problem solving and is not part of a formal program of education.
- 5) **Degree** - Refers to an undergraduate degree.
- 6) **Postgrad** - Refers to a postgraduate Master and/or PhD degrees or other postgraduate study.

- |                                 |                       |                      |
|---------------------------------|-----------------------|----------------------|
| Evidence-based Management       | <input type="radio"/> | No course            |
| Use of Statistics               | <input type="radio"/> | Inservice            |
| Communications & IT Use         | <input type="radio"/> | Workshop/<br>Seminar |
| Governance & Policy Development | <input type="radio"/> | Certificate          |
| Leadership Skills               | <input type="radio"/> | Diploma              |
| Conflict Management             | <input type="radio"/> | Degree               |
| Change & Complexity             | <input type="radio"/> | Postgrad             |
| Evaluating Management Plans     |                       |                      |
| Environmental & Risk Management |                       |                      |
| Quality Improvement             |                       |                      |
| Human Resource Management       |                       |                      |
| Financial Analysis              |                       |                      |
| Project Management              |                       |                      |
| Contract Management             |                       |                      |

10. Can you **briefly** explain why any management course(s) you have taken **has not** helped you in your current management role?

---



---



---

11. How would you rate your current competency level with regard to the management skills identified below.

*Rate your skill level on a scale of 1-5, where 1 is poor and 5 is excellent.*

- |                                 |                       |                    |
|---------------------------------|-----------------------|--------------------|
| Evidence-based Management       | <input type="radio"/> | 1 <br> (poor)      |
| Use of Statistics               | <input type="radio"/> | 2                  |
| Communications & IT Use         | <input type="radio"/> | 3                  |
| Governance & Policy Development | <input type="radio"/> | 4                  |
| Leadership Skills               | <input type="radio"/> | 5 <br> (excellent) |
| Conflict Management             |                       |                    |
| Change & Complexity             |                       |                    |
| Evaluating Management Plans     |                       |                    |
| Environmental & Risk Management |                       |                    |
| Quality Improvement             |                       |                    |
| Human Resource Management       |                       |                    |
| Financial Analysis              |                       |                    |
| Project Management              |                       |                    |
| Contract Management             |                       |                    |

12. In reviewing the list of competencies we've just been using, please state **one additional competency** that you believe is essential for health care management that was not included in the above list. **(Leave this blank if you think the list is complete).**

---

### Management Education Required Now

13. In this item, we wish you to identify the education courses which would best meet your present management needs. Please check the three (3) most important competencies in the following list which you believe you will need to study in the next 24 months.

- Evidence-based Management
- Use of Statistics
- Communications and IT Use
- Governance & Policy Development
- Leadership Skills
- Conflict Management
- Change & Complexity
- Evaluating Management Plans

- Environmental & Risk Management
- Quality Improvement
- Human Resource Management
- Financial Analysis
- Project Management
- Contract Management
- Other \_\_\_\_\_

## Education Delivery

*In questions 14-20, we are seeking your preference regarding the way education courses are delivered.*

14. Have you ever taken a distance learning course?

*If your answer is 'no', skip to Question 16.*

- Yes
- No
- Don't know

15. If yes, would you be interested in taking another distance learning course?

- Yes
- No
- Don't know

*In questions 16-20 the word 'Internet-based' is used to describe any kind of web-based , computer assisted and/or online learning.*

16. Are you now, or have you ever, participated in an internet-based education course? *If your answer is 'no', skip to Question 19.*

- Yes
- No
- Don't know

17. If yes, list **1 to 3** advantages you found in taking an Internet-based course?

---



---



---

18. If yes, what do you regard as the **MAIN** advantage of Internet-based learning?

---

*If you answered questions 16 to 18, skip question 19.*

19. If you answered 'no' to question 16, indicate why you have not considered an Internet-based course? *Select all that apply.*

- Never thought of it
- Do not have a home computer
- Cannot get enough time on the home computer for studies
- Do not like to use the internet to study
- Prefer face-to-face learning situations

- Don't like studying alone
- Not adept at using the computer
- Not adept at using the internet
- Unaware of what internet courses are available
- Other \_\_\_\_\_

20. If an Internet-based course was available do you think you have the computer and internet skills to study online?

- Yes
- No
- Don't know

21. In this question, we want you to consider the difference between three types of educational delivery: classroom-based learning, paper-based distance learning and Internet-based learning. For each of the learning features identified, for each delivery style, rate your perception from poor (1) to excellent (5).

**Classroom-based Learning - Learning in an instructional space for group education by an instructor.**

**Paper-based Distance Learning - Distance learning takes place with a separation of the instructor and student by space and/or time. In this instance distance learning is being considered without Internet linkages.**

**Internet-based Learning - Internet-based learning, in this case, is taken to mean learning primarily involving the Internet, with only minimal paper or classroom learning.**

	Classroom Learning	Distance   Learning	Online   Learning
Course choices tailored to the learner	<input type="radio"/> 1 <input type="radio"/> 2	<input type="radio"/> 1 <input type="radio"/> 2	<input type="radio"/> 1 <input type="radio"/> 2
Course duration tailored to the learner	<input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> 3 <input type="radio"/> 4
Course accessible when needed	<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5
Registration is flexible			
Course guidelines are clearly stated			
Opportunities for evaluation of progress			
Pace of course is tailored to learner			
Technology aspects easy to learn			
Group work for learning			
Assignments are clear			
Reading /other resources easy to access			
Good discussion/interaction with other students			
Instructor access			

is flexible &  
timely

### Miscellaneous

*In questions 22-25, we would like to get your opinion on academic credit and how your education needs have changed.*

22. Do you think that you should receive academic credit for your years of professional experience in the health system?

- Yes
- No
- Don't know

23. Do you think that certain educational programs, provided through in-service, workshops, or certificate means, should provide credit towards a higher degree qualification?

- Yes
- No
- Don't know

24. In what ways have the educational needs of health care managers changed with health industry reorganization and/or the formation of larger areas of responsibility?

Check all that apply.

- No change has occurred
- Competencies are not clearly defined
- Former skills are obsolescent
- New skills are needed quickly
- Stressful environment makes learning difficult
- Managers are more responsible for their own education
- Life long learning has become necessary
- Other \_\_\_\_\_

25. Are there any other comments you would like to add regarding management education?

---

---

---

**Thank you for completing the survey.**



## **Appendix F**

### **Senior Management Interview List of Participants**

#### **Health Industry**

1. Pat Doyle, Chief Human Resource Officer, Interior Health Authority, British Columbia, Canada
2. Geoffrey Crampton, Vice President, Human Resources and Organizational Development, Fraser Health Authority, British Columbia, Canada
3. Murray Ramsden, Chief Executive Officer, Interior Health Authority, British Columbia, Canada
4. Glen Colwill, Regional Director of Human Resources, Vancouver Island Health Authority, British Columbia, Canada
5. Grace Hodgins, Corporate Director, Learning & Development, Provincial Health Services Authority, British Columbia, Canada
6. Tony DeCastro, Consultant, People Development, Fraser Health Authority, British Columbia, Canada
7. Barbara Suen, Director Laboratories, Royal Columbia Hospital, Fraser Health Authority, British Columbia, Canada
8. Sharon Davalovsky, Regional Manager, Preventive Public Health, Northern Health Authority, Northern Interior Health Unit, British Columbia, Canada
9. Joan Prociuk, Regional Director of Learning & Development, Vancouver Coastal Health Authority, British Columbia, Canada
10. Norma John, Regional Coordinator, Northern Nursing Strategy, Northern Health Authority, British Columbia, Canada
11. Pat Ryan, Chief Information Officer, Interior Health, British Columbia, Canada
12. Maureen Thomson, Director of Patient Services, Interior Health, British Columbia, Canada
13. Geoff Rowlands, Assistant Deputy Minister, Planning and Innovation, Ministry of Health Services, British Columbia, Canada

#### **Health Industry/Education**

1. Terri Conway, Manager of Organizational Development and Learning, Vancouver Island Health Authority, British Columbia, Canada
2. Helen Lingham, Senior Consultant, Organization Development, Fraser Health Authority, British Columbia, Canada
3. Dianne Goossens, Leader in Organization Development, Interior Health Authority, British Columbia, Canada
4. Katherine Graham, Corporate Practice Leader, Learning & Development, Provincial Health Services Authority, British Columbia, Canada
5. Peter Martin, Manager of Education, Northern Health Authority, British Columbia, Canada

### **Higher Education**

1. Dr. Eric Sandelands, Dean, Canadian School of Management, Toronto, Canada
2. Ken Sekhon, Acting Chair of E-Business & Information Management Department Camosun College, British Columbia, Canada
3. Dr. Graham Dickson, Executive Director, Leadership Development, Royal Roads University, Victoria, British Columbia, Canada
4. Dr Doug Shale, Director of the Office of Institutional Affairs, University of Calgary, Alberta, Canada

## **Appendix G**

### **Senior Management Interview Questions**

- What do you regard as the three essential management skills in today's health care industry?
- Do you think health care managers are coping well and are they resilient enough in this changing environment?
- Do you think there has been sufficient education and/or support for managers assuming new management portfolios?
- Do you think managers should have any management education before being appointed to a management position?;
- Would there be any value in health care managers having a certificate, diploma or degree in management?
- What do you think are the main barriers for managers in pursuing additional management or professional education?
- Do you think health care managers would be interested in online learning?
- Have you ever taken an online course, and if so did you enjoy it?
- What types of topics or courses do you think would be best suited to online delivery?
- Do you think there is adequate funding for management education?
- What do you see as the top management priorities in the next 3-5 years?
- Is your health authority planning any new education strategies for managers?
- Do you have any further comments on management education in today's health environment?

## Appendix H

### Health Care Manager Learning Needs

HI Change	Health Care Manager Learning Needs
<b>Global/demographic Changes</b>	
Increased knowledge	The knowledge society & health care
Service competition	Globalization of health services
	Global demand for health human resources
	Global business strategies
Terrorism	Emergencies & service delivery
Pandemics	Global coordination of health services
Increased aging population	Restructuring services for an aging population
Increased chronic illness	Equity in chronic disease management
<b>Public Policy Shift</b>	
Politics & public services	Politics & health policy
	Shifting views on the welfare state
	Trends & shifts in health delivery policy
	Public service administration
	Canadian & other country health insurance systems
Decreased funding for health	Federal/provincial funding arrangements
	BC Funding arrangements with the HAs
	Population-based funding strategies
	Economics of health services
	Understanding public system limitations
	Doing more with less
	Health industry financial management
	Financial Analysis(*)
	Accounting principles
	Outsourcing of services
	Public /private service coordination
	Contract management (*)
	New funding sources (fund raising)
	Effects of funding decisions on service delivery
	Health Authority budgeting process
Regionalization	Regionalization & other reform processes
	Decentralized/centralized service models
	Health reform in other countries
	Governance & policy management (*)
	Creating effective Boards
	Working with regional Boards
	New ventures in service delivery
Legislation	Regulations & health service delivery
	Checks & balances in the health system
Legal	Legal aspects of service delivery
	Security issues in health delivery
Ethics	Ethical decisions in service delivery

Appendix H (continue)

Increased community involvement in health planning	Communication skills(*)
	Political skills in dealing with various community groups
	Community planning skills
	Media relations
<b>Health as a Business</b>	
	Systems thinking
	Strategic planning
Service delivery (general)	Shared vision in service delivery
	Seamless service delivery
	Effective service delivery strategies
	Management of regional services
	Managing service disruptions & bottlenecks
	Working smarter in service delivery
Increased evidence for decisions	Evidence-based management (*)
	Use of statistics in decision-making (*)
Information management	Understanding information systems
	Managing information system
	How to effectively manage information
	Creating integrated computer systems for health service delivery
More business plans	Writing a business proposal
	How to create & maintain a business plan
	Writing annual service management plans
	Evaluating management plans (*)
	Understanding marketing in health care
Corporate management	Strategic management
	Effective Board management
	Leadership skills (*)
	Measuring effective leadership
	Effective Board presentations
	Public relations skills
	Fund-raising skills
Increased accountability	Creating standards in service delivery
	Quality improvement & reporting (*)
	Best health service practices
	Performance measurement strategies
	Assessing outcome accountability
New partnerships	Working in a public/private environment
	Identification of new partnerships
	How to negotiate & work with new partners
	Negotiating skills
	Competition in health care
Customer relations	Client- focused care
	Service needs of BC cultures
Environmental factors	Environmental & risk management (*)
	Safety issues in health care
	Managing health hazards
	Transportation in service delivery

Appendix H (continue)

Organizational Change	
	Social change & complexity
	Change & complexity in health care (*)
	How to forecast health industry change
	How to deal with the speed of change
	Management theory
	How to manage health industry complexity
	Organizational theory
	Strategies for greater resiliency to change
	How to implement change while providing 24/7 service delivery
General resources	Supply chain management
	Equipment & supply management
	Inventory management & controls
	Equipment funding initiatives
	Hotel service management (dietary, housekeeping, laundry)
	Maintenance of regional facilities
Changes in human resources	Human resource management (*)
	Recruitment & retention of health personnel
	How to work with fewer human resources
	Innovative human resources concepts
	Team management
	Relationship building
	Effective use of consultants
	Effective use of volunteers & other groups
	Use of performance indicators
Decreased management support	Conflict management (*)
	Labour negotiation & management
	Coaching & mentoring for managers
	Professional communities
Increased workload	How to streamline management practices
Need for new skills	Assessment of management competencies
	How to measure competency
	Being an effective executive manager
	being an effective regional manager
	Being an effective middle-manager
Need to redesign services	How to redesign a health service
	How to analyse patient flow patterns
	Project management (*)
	How to analyse project risk
	Managing a number of projects
	Redesign facility planning & management
	Planning & design of health facilities
	Project implementation strategies
	How to deal with complexities in changing health services

Appendix H (continue)

Service delivery (specific)	Managing regional OR & ER Services
	Managing regional maternal/child services
	Managing regional mental health services
	Managing regional medical/surgical services
	Managing regional community services
	Managing regional long-term services
	Working with alternative services
	Improving patient care
Technology in health care	Computer & Internet skills
	Integrated information system in health care
	Dealing with health infomatics
	How the Internet is changing service delivery
	How robots will change service delivery
	Managing waitlists
	e-management in health care
Other	Problem-solving techniques
Need for more management research	How to identify service issues for research
	How to manage a research project
	Innovative ideas in service delivery
	New computer programs for service delivery
	Improved access to health service data
	Harvesting service ideas from research
	Estimating the cost effectiveness of health programs
	How to analyse clinical trial data
	Identifying new methods to measure quality
	Effects of health reform on service quality
	Working with higher education to promote service research
	(*) <i>PhD survey competencies</i>

## Appendix I

### Additional Quantitative Tables

These tables are in addition to those provided in chapter 6.

**Table 1: Basic Undergraduate Education of Survey Respondents**

<i>RESPONSE</i>	<i>COUNT</i>	<i>PERCENT</i>
No degree	73	16%
Arts	34	7%
Science	35	8%
Nursing	135	29%
Laboratory technology	13	3%
Nutrition	12	3%
Management	6	1%
Medicine	1	0%
Pharmacy	9	2%
Social Work	14	3%
Rehabilitation (PT or OT)	17	4%
X-ray technology	14	3%
Education	4	1%
Business, commerce or admin	23	5%
Public admin	3	1%
Mathematics	2	0%
Computer science	2	0%
Engineering	5	1%
Other	55	12%
No Response	1	0%
<b>TOTAL</b>	<b>458</b>	<b>100%</b>

The majority (83% ) of survey respondents had an undergraduate degree, with the largest undergraduate qualification being in nursing. In the ‘other’ category, 23 respondents had an undergraduate degree in such diverse areas as engineering, theology, health information, economics, philosophy and chemistry.



**Table 2: Postgraduate Education of Survey Respondents**

<i>RESPONSE</i>	<i>COUNT</i>	<i>PERCENT</i>
Arts	17	4%
Science	10	2%
Nursing	42	9%
Nutrition	2	0%
Medicine	2	0%
Pharmacy	1	0%
Social Work	14	3%
Rehabilitation (PT or OT)	2	0%
Education	12	3%
Business, commerce or admin	67	15%
Public admin	7	2%
Mathematics	1	0%
Computer science	1	0%
Engineering	6	1%
Other	58	13%
No Response	216	47%
<b>TOTAL</b>	<b>458</b>	<b>100%</b>

The majority (51%) of survey respondents had a postgraduate qualification with the largest number in the business, commerce, and administration areas. In the ‘other’ category postgraduate education was in such areas as health administration, health sciences, health service planning and administration, leadership and training, psychology, speech pathology and theology.

**Table 3: Postgraduate Education of Survey Respondents by Gender**

<b>Post-Grad &amp; Gender Analysis</b>	Survey Respondents	Post-Grad Degrees	% of Total
Male	125	70	56%
Female	333	172	52%
Total	458	242	53%

The gender breakdown with regard to postgraduate education shows that there is a slightly higher percentage of males than females with higher qualifications.

**Table 4: Postgraduate Education of Survey Respondents by Age**

<b>Post-Grad &amp; Age Analysis</b>	<b>Survey Respondents</b>	<b>Post-Grad Degrees</b>	<b>% of Total</b>
<= 45	137	80	58%
46 - 50	118	55	47%
>= 51	203	107	53%
<b>Total</b>	<b>458</b>	<b>242</b>	<b>53%</b>

Postgraduate education by age shows that respondents under 46 years of age had the highest percentage of postgraduate education, followed, by the over 51 years of age group.

**Table 5: Age of Survey Respondents**

<i>RESPONSE</i>	<i>COUNT</i>	<i>PERCENT</i>
25 years and under	3	1%
26 - 30	6	1%
31 - 35	23	5%
36 - 40	39	9%
41 - 45	66	14%
46 - 50	118	26%
51 - 55	126	28%
56 +	77	17%
No Response	0	0%
<b>TOTAL</b>	<b>458</b>	<b>100%</b>

**Table 6: Latest Management Education**

<i>RESPONSE</i>	<i>COUNT</i>	<i>PERCENT</i>
In the last 12 Months	304	66%
In the last 2 Years	66	14%
In the last 3 Years	24	5%
In the last 4 Years	21	5%
In the last 7 Years	29	6%
Never	10	2%
No Response	4	1%
<b>TOTAL</b>	<b>458</b>	<b>100%</b>

The majority (85%) of respondents attended a management course in the last three years, with 66% taking a course in the last twelve months. Since there are mandatory courses for managers in the areas of budgeting, policy and service changes, and human resources this finding is not unexpected and confirms that managers are able to attend management training. The question is whether managers are able to acquire new skill training separate from the mandatory educational requirements of their jobs.

**Table 7: Source of Competency Skill Education**

<i>Learning Format</i>	<i>No Course</i>	<i>Inservice</i>	<i>Workshop/ Seminar</i>	<i>Certificate</i>	<i>Diploma</i>	<i>Degree</i>	<i>Postgrad</i>	<i>No Response</i>	<i>TOTAL</i>
Evidence-based Management	171	42	99	30	15	31	62	8	458
	37%	9%	22%	7%	3%	7%	14%	2%	100%
Use of Statistics	113	23	39	26	25	102	113	17	458
	25%	5%	9%	6%	5%	22%	25%	4%	100%
Communications and IT Use	68	106	140	23	19	35	58	9	458
	15%	23%	31%	5%	4%	8%	13%	2%	100%
Governance & Policy Development	171	41	87	26	10	35	74	14	458
	37%	9%	19%	6%	2%	8%	16%	3%	100%
Leadership Skills	29	39	156	79	15	33	103	4	458
	6%	9%	34%	17%	3%	7%	22%	1%	100%
Conflict Management	59	46	201	62	9	23	51	7	458
	13%	10%	44%	14%	2%	5%	11%	2%	100%
Change and Complexity	68	63	173	32	5	27	85	5	458
	15%	14%	38%	7%	1%	6%	19%	1%	100%
Evaluating Management Plans	220	35	78	22	10	15	65	13	458
	48%	8%	17%	5%	2%	3%	14%	3%	100%
Environmental & Risk Management	166	87	129	24	6	14	25	7	458
	36%	19%	28%	5%	1%	3%	5%	2%	100%
Quality Improvement	90	83	187	36	12	12	32	6	458
	20%	18%	41%	8%	3%	3%	7%	1%	100%
Human Resource Mgmt	87	66	143	48	19	32	59	4	458
	19%	14%	31%	10%	4%	7%	13%	1%	100%
Financial Analysis	151	72	80	36	19	33	61	6	458
	33%	16%	17%	8%	4%	7%	13%	1%	100%
Project Management	169	42	142	39	7	13	41	5	458
	37%	9%	31%	9%	2%	3%	9%	1%	100%
Contract Management	268	57	74	23	6	7	16	7	458
	59%	12%	16%	5%	1%	2%	3%	2%	100%
<b>TOTAL</b>	1830	802	1728	506	177	412	845	112	6412
	29%	13%	27%	8%	3%	6%	13%	2%	100%

More individual tables have been created with this data in chapter 6.

**Table 8: Competency Skill Rating by Respondents**

(Scale: 1 = poor, 2=average, 3=good, 4=very good, and 5 = excellent)

<i>Skill Self-rating</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>No Response</i>	<i>TOTAL</i>
Evidence-based Management	40	79	161	138	31	9	458
	9%	17%	35%	30%	7%	2%	100%
Use of Statistics	34	93	166	131	29	5	458
	7%	20%	36%	29%	6%	1%	100%
Communications and IT Use	4	43	174	174	60	3	458
	1%	9%	38%	38%	13%	1%	100%
Governance & Policy Development	35	102	176	115	25	5	458
	8%	22%	38%	25%	5%	1%	100%
Leadership Skills	0	9	86	239	122	2	458
	0%	2%	19%	52%	27%	0%	100%
Conflict Management	3	33	128	220	71	3	458
	1%	7%	28%	48%	16%	1%	100%
Change and Complexity	3	23	126	206	96	4	458
	1%	5%	28%	45%	21%	1%	100%
Evaluating Management Plans	29	98	169	130	25	7	458
	6%	21%	37%	28%	5%	2%	100%
Environmental & Risk Management	20	99	193	114	25	7	458
	4%	22%	42%	25%	5%	2%	100%
Quality Improvement	5	62	169	182	35	5	458
	1%	14%	37%	40%	8%	1%	100%
Human Resource Mgmt	4	35	137	207	70	5	458
	1%	8%	30%	45%	15%	1%	100%
Financial Analysis	35	94	155	129	42	3	458
	8%	21%	34%	28%	9%	1%	100%
Project Management	25	85	151	149	42	6	458
	5%	19%	33%	33%	9%	1%	100%
Contract Management	80	118	139	91	18	12	458
	17%	26%	30%	20%	4%	3%	100%
<b>TOTAL</b>	317	973	2130	2225	691	76	6412
	5%	15%	33%	35%	11%	1%	100%

This data is presented differently in chapter 6.

**Table 9: Academic Credit for Professional Experience by Gender**

Cross-tabulation by question 22 (academic credit for professional experience) and question 5 (gender).

**Crosstab**

			Q5 Gender		Total
			Male	Female	
Q22 Should receive academic credit for years of professional experience	Yes	Count	79	198	277
		Expected Count	74.9	202.1	277.0
		% within Q22 Should receive academic credit for years of professional experience	28.5%	71.5%	100.0%
		% within Q5 Gender	64.8%	60.2%	61.4%
	No	Count	32	87	119
		Expected Count	32.2	86.8	119.0
		% within Q22 Should receive academic credit for years of professional experience	26.9%	73.1%	100.0%
		% within Q5 Gender	26.2%	26.4%	26.4%
	Don't know	Count	11	44	55
		Expected Count	14.9	40.1	55.0
		% within Q22 Should receive academic credit for years of professional experience	20.0%	80.0%	100.0%
		% within Q5 Gender	9.0%	13.4%	12.2%
Total	Count	122	329	451	
	Expected Count	122.0	329.0	451.0	
	% within Q22 Should receive academic credit for years of professional experience	27.1%	72.9%	100.0%	
	% within Q5 Gender	100.0%	100.0%	100.0%	

The majority (71.5%) of respondents seeking more academic credit for their professional experience are females. The Chi Square Test [ $\chi^2(2) = 1.69, p > 0.05$ ] shows that there is no association between the two variables.

**Table 10: Academic Credit for Professional Experience by Age**

Cross-tabulation of question 22 (academic credit for professional experience) and question 4 (age).

**Crosstab**

			q4gr Age group			Total
			40 or less	41-50	51+	
Q22 Should receive academic credit for years of professional experience	Yes	Count	29	111	137	277
		Expected Count	43.0	111.8	122.2	277.0
		% within Q22 Should receive academic credit for years of professional experience	10.5%	40.1%	49.5%	100.0%
		% within q4gr Age group	41.4%	61.0%	68.8%	61.4%
	No	Count	26	45	48	119
		Expected Count	18.5	48.0	52.5	119.0
		% within Q22 Should receive academic credit for years of professional experience	21.8%	37.8%	40.3%	100.0%
		% within q4gr Age group	37.1%	24.7%	24.1%	26.4%
	Don't know	Count	15	26	14	55
		Expected Count	8.5	22.2	24.3	55.0
		% within Q22 Should receive academic credit for years of professional experience	27.3%	47.3%	25.5%	100.0%
		% within q4gr Age group	21.4%	14.3%	7.0%	12.2%
Total	Count	70	182	199	451	
	Expected Count	70.0	182.0	199.0	451.0	
	% within Q22 Should receive academic credit for years of professional experience	15.5%	40.4%	44.1%	100.0%	
	% within q4gr Age group	100.0%	100.0%	100.0%	100.0%	

The majority (89.6 %) of those 41 years and older are seeking more academic credit for their professional experience. The Chi Square Test [ $\chi^2(4) = 19.88, p < 0.05$ ] shows that there is a statistically significant association between the two variables.

**Table 11: Academic Credit for Other Learning by Gender**

Cross-tabulation of question 23 (academic credit for certain educational programs) and question 5 (gender).

**Crosstab**

			Q5 Gender		Total
			Male	Female	
Q23 Certain education programs should count towards a higher degree	Yes	Count	92	258	350
		Expected Count	95.5	254.5	350.0
		% within Q23 Certain education programs should count towards a higher degree	26.3%	73.7%	100.0%
		% within Q5 Gender	74.8%	78.7%	77.6%
	No	Count	24	43	67
		Expected Count	18.3	48.7	67.0
		% within Q23 Certain education programs should count towards a higher degree	35.8%	64.2%	100.0%
		% within Q5 Gender	19.5%	13.1%	14.9%
	Don't know	Count	7	27	34
		Expected Count	9.3	24.7	34.0
		% within Q23 Certain education programs should count towards a higher degree	20.6%	79.4%	100.0%
		% within Q5 Gender	5.7%	8.2%	7.5%
Total	Count	123	328	451	
	Expected Count	123.0	328.0	451.0	
	% within Q23 Certain education programs should count towards a higher degree	27.3%	72.7%	100.0%	
	% within Q5 Gender	100.0%	100.0%	100.0%	

The majority (73.75%) of those seeking more academic credit for certain educational programs are females. The Chi Square Test [ $\chi^2 (2) = 3.41, p>0.05$ ] shows that there is no association between the two variables.

**Table 12: Academic Credit for Other Learning by Age**

Cross-tabulation of question 23 (academic credit for certain educational programs) and question 4 (age) .

**Crosstab**

			q4gr Age group			Total
			40 or less	41-50	51+	
Q23 Certain education programs should count towards a higher degree	Yes	Count	43	147	160	350
		Expected Count	54.3	141.2	154.4	350.0
		% within Q23 Certain education programs should count towards a higher degree	12.3%	42.0%	45.7%	100.0%
		% within q4gr Age group	61.4%	80.8%	80.4%	77.6%
	No	Count	18	22	27	67
		Expected Count	10.4	27.0	29.6	67.0
		% within Q23 Certain education programs should count towards a higher degree	26.9%	32.8%	40.3%	100.0%
		% within q4gr Age group	25.7%	12.1%	13.6%	14.9%
	Don't know	Count	9	13	12	34
		Expected Count	5.3	13.7	15.0	34.0
		% within Q23 Certain education programs should count towards a higher degree	26.5%	38.2%	35.3%	100.0%
		% within q4gr Age group	12.9%	7.1%	6.0%	7.5%
Total	Count	70	182	199	451	
	Expected Count	70.0	182.0	199.0	451.0	
	% within Q23 Certain education programs should count towards a higher degree	15.5%	40.4%	44.1%	100.0%	
	% within q4gr Age group	100.0%	100.0%	100.0%	100.0%	

The majority (87.7 %) of respondents seeking more academic credit for certain educational programs are over 41 years of age. The Chi Square Test [ $\chi^2 (4) = 12.78, p < 0.05$ ] shows that there is a statistically significant association between the two variables.



**Table 13: Distance Learning Experience by Gender**

Cross-tabulation by question 14 (distance learning experience) and question 5 (gender).

**Q14 Ever taken a distance learning course \* Q5 Gender Crosstabulation**

			Q5 Gender		Total
			Male	Female	
Q14 Ever taken a distance learning course	Yes	Count	76	229	305
		Expected Count	81.6	223.4	305.0
		% within Q14 Ever taken a distance learning course	24.9%	75.1%	100.0%
		% within Q5 Gender	69.1%	76.1%	74.2%
	No	Count	34	72	106
		Expected Count	28.4	77.6	106.0
		% within Q14 Ever taken a distance learning course	32.1%	67.9%	100.0%
		% within Q5 Gender	30.9%	23.9%	25.8%
Total	Count	110	301	411	
	Expected Count	110.0	301.0	411.0	
	% within Q14 Ever taken a distance learning course	26.8%	73.2%	100.0%	
	% within Q5 Gender	100.0%	100.0%	100.0%	

The majority (75.1%) of those with distance learning experience are females. The Chi Square Test [ $\chi^2(1) = 2.06, p > 0.05$ ] shows that there is no association between the two variables.

**Table 14: Distance Learning Experience by Age**

Cross-tabulation by question 14 (distance learning experience and question 4 (age)).

**Q14 Ever taken a distance learning course \* q4gr Age group Crosstabulation**

			q4gr Age group			Total
			40 or less	41-50	51+	
Q14 Ever taken a distance learning course	Yes	Count	52	119	134	305
		Expected Count	49.7	123.2	132.1	305.0
		% within Q14 Ever taken a distance learning course	17.0%	39.0%	43.9%	100.0%
		% within q4gr Age group	77.6%	71.7%	75.3%	74.2%
	No	Count	15	47	44	106
		Expected Count	17.3	42.8	45.9	106.0
		% within Q14 Ever taken a distance learning course	14.2%	44.3%	41.5%	100.0%
		% within q4gr Age group	22.4%	28.3%	24.7%	25.8%
Total	Count	67	166	178	411	
	Expected Count	67.0	166.0	178.0	411.0	
	% within Q14 Ever taken a distance learning course	16.3%	40.4%	43.3%	100.0%	
	% within q4gr Age group	100.0%	100.0%	100.0%	100.0%	

Respondents 41 years and older have the greatest distance learning experience. The Chi Square Test [ $\chi^2 (2) = 1.06, p > 0.05$ ] shows that there is no association between the two variables.

**Table 15: Distance Learning Experience by Urban/Non-urban Location**

Cross-tabulation by question 14 (distance learning experience) and question 2 (work location).

**Q14 Ever taken a distance learning course \* q2gr Postcode grouped Crosstabulation**

			q2gr Postcode grouped		Total
			Urban	Rural	
Q14 Ever taken a distance learning course	Yes	Count	274	19	293
		Expected Count	278.2	14.8	293.0
		% within Q14 Ever taken a distance learning course	93.5%	6.5%	100.0%
		% within q2gr Postcode grouped	73.1%	95.0%	74.2%
	No	Count	101	1	102
		Expected Count	96.8	5.2	102.0
		% within Q14 Ever taken a distance learning course	99.0%	1.0%	100.0%
		% within q2gr Postcode grouped	26.9%	5.0%	25.8%
Total	Count	375	20	395	
	Expected Count	375.0	20.0	395.0	
	% within Q14 Ever taken a distance learning course	94.9%	5.1%	100.0%	
	% within q2gr Postcode grouped	100.0%	100.0%	100.0%	

93.5 % of respondents working in an urban location have had distance learning experience. The Chi Square Test [ $\chi^2 (1) = 4.77, p < 0.05$ ] shows that there is a statistically significant association between the two variables.

**Table 16: Interest in Further Distance Learning by Gender**

Cross-tabulation by question 15 (further distance learning) and question 5 (gender).

**Q15 Interested in taking another distance learning course \* Q5 Gender Crosstabulation**

			Q5 Gender		Total
			Male	Female	
Q15 Interested in taking another distance learning course	Yes	Count	63	191	254
		Expected Count	63.9	190.1	254.0
		% within Q15 Interested in taking another distance learning course	24.8%	75.2%	100.0%
		% within Q5 Gender	85.1%	86.8%	86.4%
	No	Count	11	29	40
		Expected Count	10.1	29.9	40.0
		% within Q15 Interested in taking another distance learning course	27.5%	72.5%	100.0%
		% within Q5 Gender	14.9%	13.2%	13.6%
Total	Count	74	220	294	
	Expected Count	74.0	220.0	294.0	
	% within Q15 Interested in taking another distance learning course	25.2%	74.8%	100.0%	
	% within Q5 Gender	100.0%	100.0%	100.0%	

The majority (75.2%) of those interested in further distance learning are females. The Chi Square Test [ $\chi^2(1) = 0.13, p > 0.05$ ] shows that there is no association between the two variables.

**Table 17: Interest in Further Distance Learning by Age**

Cross-tabulation by question 15 (further distance learning) and question 4 (age).

**Q15 Interested in taking another distance learning course \* q4gr Age group Crosstabulation**

			q4gr Age group			Total
			40 or less	41-50	51+	
Q15 Interested in taking another distance learning course	Yes	Count	42	106	106	254
		Expected Count	42.3	102.8	108.9	254.0
		% within Q15 Interested in taking another distance learning course	16.5%	41.7%	41.7%	100.0%
		% within q4gr Age group	85.7%	89.1%	84.1%	86.4%
	No	Count	7	13	20	40
		Expected Count	6.7	16.2	17.1	40.0
		% within Q15 Interested in taking another distance learning course	17.5%	32.5%	50.0%	100.0%
		% within q4gr Age group	14.3%	10.9%	15.9%	13.6%
Total	Count	49	119	126	294	
	Expected Count	49.0	119.0	126.0	294.0	
	% within Q15 Interested in taking another distance learning course	16.7%	40.5%	42.9%	100.0%	
	% within q4gr Age group	100.0%	100.0%	100.0%	100.0%	

83.4% of those 41 years and older would be interested in further distance learning. The Chi Square Test [ $\chi^2 (2) = 1.30, p > 0.05$ ] shows that there is no association between the two variables.

**Table 18: Interest in Further Distance Learning by Urban/Non-urban Location**

Cross-tabulation by question 15 (further distance learning) and question 2 (work location).

**Q15 Interested in taking another distance learning course \* q2gr Postcode grouped  
Crosstabulation**

			q2gr Postcode grouped		Total
			Urban	Rural	
Q15 Interested in taking another distance learning course	Yes	Count	228	16	244
		Expected Count	228.4	15.6	244.0
		% within Q15 Interested in taking another distance learning course	93.4%	6.6%	100.0%
		% within q2gr Postcode grouped	86.4%	88.9%	86.5%
	No	Count	36	2	38
		Expected Count	35.6	2.4	38.0
		% within Q15 Interested in taking another distance learning course	94.7%	5.3%	100.0%
		% within q2gr Postcode grouped	13.6%	11.1%	13.5%
Total	Count	264	18	282	
	Expected Count	264.0	18.0	282.0	
	% within Q15 Interested in taking another distance learning course	93.6%	6.4%	100.0%	
	% within q2gr Postcode grouped	100.0%	100.0%	100.0%	

The majority (93.4%) of respondents working in an urban location would be interested in further distance learning. The Chi Square Test [ $\chi^2(1) = 0.09, p > 0.05$ ] shows that there is no association between the two variables.

**Table 19: Rating of Classroom-based Learning**

(Scale: 1 = poor, 2=average, 3=good, 4=very good, and 5 = excellent)

<i>Classroom Learning</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>No Response</i>	<i>TOTAL</i>
Course choices tailored to the learner	31 7%	57 12%	144 31%	126 28%	73 16%	27 6%	458 100%
Course duration tailored to the learner	98 21%	116 25%	123 27%	55 12%	31 7%	35 8%	458 100%
Course accessible when needed	137 30%	163 36%	79 17%	21 5%	21 5%	37 8%	458 100%
Registration is flexible	104 23%	119 26%	133 29%	38 8%	27 6%	37 8%	458 100%
Course guidelines are clearly stated	4 1%	18 4%	102 22%	174 38%	127 28%	33 7%	458 100%
Opportunities for evaluation of progress	2 0%	24 5%	101 22%	177 39%	120 26%	34 7%	458 100%
Pace of course is tailored to learner	74 16%	136 30%	150 33%	43 9%	20 4%	35 8%	458 100%
Technology aspects easy to learn	8 2%	26 6%	97 21%	137 30%	140 31%	50 11%	458 100%
Group work for learning	5 1%	8 2%	28 6%	138 30%	252 55%	27 6%	458 100%
Assignments are clear	1 0%	8 2%	95 21%	178 39%	139 30%	37 8%	458 100%
Reading/other resources easy to access	5 1%	36 8%	131 29%	161 35%	89 19%	36 8%	458 100%
Good discussion/interaction with other students	2 0%	3 1%	22 5%	123 27%	272 59%	36 8%	458 100%
Instructor access is flexible & timely	15 3%	45 10%	127 28%	145 32%	89 19%	37 8%	458 100%

This data is presented in a different way in chapter 6.

**Table 20 : Rating of Paper-based Distance Learning**

(Scale: 1 = poor, 2=average, 3=good, 4=very good, and 5 = excellent)

<i>Distance Learning</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>No Response</i>	<i>TOTAL</i>
Course choices tailored to the learner	22	71	178	118	31	38	458
	5%	16%	39%	26%	7%	8%	100%
Course duration tailored to the learner	10	46	149	157	54	42	458
	2%	10%	33%	34%	12%	9%	100%
Course accessible when needed	14	39	133	153	76	43	458
	3%	9%	29%	33%	17%	9%	100%
Registration is flexible	16	53	166	124	53	46	458
	3%	12%	36%	27%	12%	10%	100%
Course guidelines are clearly stated	4	12	122	174	105	41	458
	1%	3%	27%	38%	23%	9%	100%
Opportunities for evaluation of progress	13	63	157	136	43	46	458
	3%	14%	34%	30%	9%	10%	100%
Pace of course is tailored to learner	8	48	140	164	63	35	458
	2%	10%	31%	36%	14%	8%	100%
Technology aspects easy to learn	17	58	146	111	70	56	458
	4%	13%	32%	24%	15%	12%	100%
Group work for learning	130	159	90	30	9	40	458
	28%	35%	20%	7%	2%	9%	100%
Assignments are clear	5	24	161	146	73	49	458
	1%	5%	35%	32%	16%	11%	100%
Reading/other resources easy to access	6	46	169	137	55	45	458
	1%	10%	37%	30%	12%	10%	100%
Good discussion/interaction with other students	132	151	97	23	3	52	458
	29%	33%	21%	5%	1%	11%	100%
Instructor access is flexible & timely	46	104	177	62	18	51	458
	10%	23%	39%	14%	4%	11%	100%

This data is presented in a different way in chapter 6.



**Table 21: Rating of E-learning**

(Scale: 1 = poor, 2=average, 3=good, 4=very good, and 5 = excellent)

<i>E-learning</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>No Response</i>	<i>TOTAL</i>
Course choices tailored to the learner	21 5%	38 8%	111 24%	174 38%	71 16%	43 9%	458 100%
Course duration tailored to the learner	7 2%	31 7%	88 19%	159 35%	122 27%	51 11%	458 100%
Course accessible when needed	4 1%	6 1%	41 9%	152 33%	207 45%	48 10%	458 100%
Registration is flexible	8 2%	16 3%	93 20%	158 34%	137 30%	46 10%	458 100%
Course guidelines are clearly stated	7 2%	10 2%	104 23%	168 37%	117 26%	52 11%	458 100%
Opportunities for evaluation of progress	9 2%	40 9%	116 25%	168 37%	69 15%	56 12%	458 100%
Pace of course is tailored to learner	4 1%	25 5%	61 13%	171 37%	153 33%	44 10%	458 100%
Technology aspects easy to learn	14 3%	43 9%	153 33%	132 29%	57 12%	59 13%	458 100%
Group work for learning	81 18%	107 23%	103 22%	79 17%	30 7%	58 13%	458 100%
Assignments are clear	8 2%	28 6%	137 30%	158 34%	74 16%	53 12%	458 100%
Reading/other resources easy to access	9 2%	16 3%	101 22%	181 40%	101 22%	50 11%	458 100%
Good discussion/interaction with other students	81 18%	95 21%	111 24%	78 17%	34 7%	59 13%	458 100%
Instructor access is flexible & timely	47 10%	65 14%	144 31%	101 22%	45 10%	56 12%	458 100%

This data is presented in a different way in chapter 6.

## Appendix J

### *Qualitative Data/ Survey*

There were two hundred and eighty quotes provided in Question 25. In this question the respondents were asked to provide additional comments on management education and/or their current learning environment. 61.1% of the survey respondents provided additional comments. These comments have been collated into four key themes which are: health reform, management education, barriers to learning and e-learning for health-care managers. Under each of the key themes the quotes have been further broken down into sub-headings for easier reference. Qualitative data tables were presented in chapter 6. Selected quotes were used in the material found in chapters 7 and 8.

#### **Theme 1: Health Reform**

##### **1a) A changing working environment**

“Before education can really move forward, a stable work environment must be in place. Eventually, employees at every level can no longer stand the constant cutting and slashing. Thinking about education means you have hope, in an environment without hope, it is hard to motivate yourself. Also there is no upward mobility in the health care system and it is paramount that you remain a clinician first and a manager second”.

“I feel that clinicians (i.e. health professionals) are appointed to management positions without the training needed to do the job. Just because they are excellent clinicians and perhaps demonstrating some ‘aptitude’ for management, does not give them the skills to cope in today’s management environment. Postgraduate work is a must”.

“I think that management positions are less desirable in health care due to the many changes and challenges. Because of this managers are leaving, and new, inexperienced people are being given these jobs without adequate educational background. (I am one of these). It is imperative that support for new managers and education is offered and accessible for managers to develop the necessary skills to have the competence and confidence to carry out the expectations of the job”.

“With amalgamation of the health authority the style of management has had to change rapidly and so much is in flux that it is hard to grasp what is really necessary”.

“With a flat organization there is a significant reduction in the number of graduated leadership learning opportunities. An inexperienced person is often sent into a complex environment as a novice manager with little support”.

“Health care management has become tied up in red tape and meetings. We have meetings so that we can set a date for the next meeting and no-one wants to make a

decision on their own anymore. In the private sector decisions get made and implemented”.

“There is a lack of time to implement the necessary changes”.

Quality improvement issues that I dealt with in the past in another province are not being addressed or seen as an issue here [in British Columbia]. Human resource management here appears to be more union friendly rather than operational need based”.

“Some tools such as Project Management and Quality Improvement require buy-in and direction at a level or two above me. There often does not seem to be appropriate time spent in the planning stages of large scale changes”.

“The pace of change has accelerated. The work environment is not black and white, it is about relationships, recognizing your authority is minimal. It is more about influence and working in a collegial manner”.

“In the health care environment, management and leadership skills are equally as important as clinical skills but it is not recognized by the physician leaders in the organization”.

“In this fast-paced, constantly changing, stressful health care environment, it is necessary to remember to recognize the needs of those entrusted with leading the way, setting the tone and mentoring new leaders”.

“The creation of larger health authorities has created a much greater opportunity for internal education as we now have the critical mass to provide it ourselves”.

“With the amalgamation in the health authority, the style of management has had to change rapidly and so much is in flux that it is hard to grasp what is really necessary. The needs of smaller hospitals are so different to the larger ones”.

“Everyone in the agency [health organization] does not work from the same base – all have not had the same training”.

“There needs to be a strong link to performance management and succession planning to ensure that if you don’t take charge of meeting your own needs then it’s at your own peril”.

“The health care environment is in a constant state of change. Employers are demanding and unreasonable in their expectations of managers. There is a high burn-out rate and no real recognition of the needs of managers”.

“In conjunction with management education, succession planning needs to be considered with clear expectations for succession planning such as how to structure this planning and what competencies are for managers”.

“Health care organizations should be focusing on succession planning and providing management education to those ‘in line’ to assume management functions over the next several years”.

### **1b) Changing expectations and reduced support for managers**

“I am an interim manager brought from retirement for a short term, at the last minute with no orientation or previous management courses beyond Head Nurse years ago and IC [Intensive Care] part time for many years”.

“It is very important to have many opportunities to grow and learn as a manager. It is a skill that can be learned with experience, however, new managers are expected to be just as competent from the beginning”.

“There is less available leadership for managers, other directors are off site and do not come to the site at regular intervals”.

“In health care if you have a strong clinical background you need some business and financial formal education. If you do not have a strong clinical background it needs to be well developed and unfortunately some folks have not done this and the best decisions are not always made”.

“We lack the basic information to support evidence-based management”.

“Many of the managers reporting to me do not have the education or training to allow them to do their jobs well. The result is that I am often mired in their work and don’t get to mine”.

“Rapid change has often made what I learned out-of-date. For example, we went to a new IT system course and since it is still not fully functional we have not applied what we learned and it may not be of use with ongoing change”.

“Management in these days require the ability to multi-task and respond to the ever-changing needs of the industry in very tight time frames. Everything is quick and dirty”.

“ A broader range of expertise is needed –such as the need to be an accountant, lawyer, helpdesk, counsellor, secretary, and mediator”.

“Change has made what I learned out-of-date or of no use.

“Most nursing managers are responsible far too many people in three separate unions that cover a 24/7 operation”.

“We are expected to know more, to be adaptive, operate without the full picture, and do less micro management –all of which require educational courses that acknowledge this new dynamic”.

“There is a need for interdisciplinary understanding of roles and responsibilities”.

“The health care environment is in a constant state of change. Employers are demanding and unreasonable in their expectations of managers. High burnout. No real recognition of the needs of managers”.

“Managers are learning the skills as needed but anyone beyond fifty is counting the hours and days till they can get out of health care because the workloads have more than doubled, the working environment is terrible, stress is high, and benefits have been reduced”.

“In many areas of health care management, roles are filled by people who have clinical experience. Though I believe clinical experience is a must in specific disciplines (i.e. nursing/ diagnostic services) I also think there should be some type of mandatory management education”.

“The challenge is to find skilled managers that can do the job that once was done by several managers. There is never enough time to complete the work. I am always working extra hours just to keep ahead, without extra pay”.

“Primary management decisions take place above my head and are completed by my direct supervisor. Knowledge that I gain in courses helps to explain why decisions are made, but ultimately they are made and handed down from above. Usually a script is provided”.

“Time is a big issue. We seem to do things without really having time to think about it first. There is so much constraint to get as much done each day as possible. Things change so quickly that soon the window of opportunity is gone”.

“The most time consuming issues are the interpersonal conflicts that require mediation skills rather than diffusing conflict between myself and another person”.

“Traditional management practices are time-consuming and require a long term planning/evaluation cycle. In today’s rapidly changing world, leadership attributes are more relevant as there is often not enough time for detailed planning and analysis”.

“The rapid pace of change means that we need to be proactive about educating management staff not just reactive”.

“Too many people in health care come into management based on their clinical or technical expertise without adequate training in management”.

“We need to shift away from promoting leaders based on technical skills and focus more on general management skills and the education offered should reflect this”.

“The reality of the workplace in healthcare at this time is very difficult due to time constraints on applying skills an individual is competent in, let alone trying to apply new skills”.

“Managers are now more routinely expected to think conceptually, plan and act strategically across complex interacting systems of care and service delivery”.

“Managers are not oriented to their positions which leads to an incredible waste of time as they flounder about in the first months on the job”.

“Managers and directors are so busy as the workload is ever-expanding. There is little time for mentoring or coaching of employees or managers”.

“Many managers have fallen into their positions with little or no management background or skills in key areas like human resources”.

“Most managers rise to the position from the field level and often do not have the relevant management education. This is very important to acquire as experience is also invaluable”.

“New managers are expected to be as competent [as experienced managers] from the beginning”.

## **Theme 2: Management education**

### **2a) The need for change in management education planning**

“In this fast-paced, constantly changing stressful healthcare environment, it is necessary to remember to recognize the needs of those entrusted with leading the way, setting the tone and mentoring new leaders. Some concrete plans with set education for groups of management leaders within organizations need to be planned, implemented and evaluated”.

“Change is happening with greater frequency and needs to be supported with evidence”.

“I am not sure [health] organizations have a good way to standardize and make sure all managers have good skill sets”.

“Reorganization can lead to confusion about where to go for courses and whom to consult about training needs”.

“Managers require better tools to make evidence-based decisions. Such tools as outcome data and infrastructure support are not easily accessible to front-line managers”.

“We lack the basic information to support evidence-based management”.

“There should be a clearly defined and articulated organizational philosophy regarding management and leadership, and courses should be aligned with and support this philosophy. The opportunity to give managers learning experiences through mentorship, project work etc. should be considered at every turn”.

“Management education needs to be available to all managers/coordinators. Opportunities (i.e. in-service or courses) should be available equally to both”.

“We need access to advanced PhD programs that allow a candidate to complete a program while remaining employed (not limited to sabbaticals)”.

“With never ending pressures to be fiscally responsible, education seems to be on the back burner, so to speak”.

“We need to have a degree in finance to completely understand management strategies in health care today. Not enough financial training for nurse managers is a huge problem”.

“More fiscal skills are necessary”.

“We need to be more cost effective to provide best practice”.

“An adaptive learning environment is necessary to support just-in-time educational/training to meet the needs of managers within a rapidly changing health care environment”.

“I have seen many administrators who are not aware of the basic clinical requirements. This is core to operating a successful program”.

“I think it is important to teach managers that there is a distinct difference between leadership and management. A great manager is not necessarily a good leader. I think in today’s environment the individual in that role needs to be both”.

“Successful leaders are those who can work with people, have influence, are open to others’ perspectives, listen well and without judgement, and are assertive. In succession planning, we need to nurture those skills and abilities”.

“If the organization truly wants to develop their own leaders, they need to make the tools, opportunities and coaching available. They need to reduce workloads to manageable levels so that people can be able to undertake programs or self-directed learning”.

“The creation of larger health authorities has created a much greater opportunity for internal education (we now have the critical mass to provide it ourselves)”.

“Management education is great as long as the ‘talk is walked’”.

“Managers in health care work long hours in a complex environment. We are also urged to take care of ourselves and not allow work to become our whole lives. Educational opportunities need to be sensitive to these competing messages/realities”.

“Basic training in management skills should be mandatory for a person assuming a management position. It cannot be successful when an incapable person is raised to managerial levels without the basic skillset to perform the duties required”.

“We need practical tools and resources as well as a theoretical base”.

“Managers should take responsibility for their own education. The employer should assist them in identifying areas that need improvement and have in-house in-service/workshops that teach hands-on methods on how to deal with situations for frontline managers”.

“Management education should be focused on general management principles not health management”.

“There are lots of management education courses from universities and colleges. Health care should not duplicate, but should stick to specific, focused health care [management] education topics”.

“If the education is provided there needs to also be recognition that managers need relief to attend the programs. What happens now is that there are courses offered but to go means doing sixty hours of work in the evening or weekends to keep up”.

“A large component of management is communication, team-building, planning and problem-solving. To develop excellent skills in these areas it is advantageous to select an educational environment that is student-centred and problem-solving as well as an environment that allows for direct interaction of ideas with other students”.

“More emphasis needs to be given to non-clinical/technical competencies such as relationship-building skills”.

“Much more human resource management skill is needed today”.

“There is not enough business perspective...too many managers are nurses with health care degrees and limited business savvy which is imperative today”.

“In health care if you have a strong clinical background you need some business and financial formal education. If you do not have a strong clinical background it needs to be well developed”.

“The ability to be adaptive, operate without the full picture and be less micro managers should be reflect in the education provided to managers”.

“All education should be competency-based and self-directed learning encouraged”.

“Because of the challenges in the environment, we need to make sure that all education is available in a timely manner and flexible enough to meet the needs of managers”.

“Regardless of their background, managers at all levels need ongoing education with regards to team building and coaching. These are critical skills in our current environment”.

“Managers need to know how to prioritize and manage within an ever-changing environment”.

“Creativity is needed to deal with ambiguity”.

“The health care industry needs to look at what is provided by private corporations and find other ways to provide up-to-date information and courses that build on basic skills.

Short segmented education may be easier to do and learn than longer courses which engulf everything”.

“Experience cannot be taught. Qualifications are over emphasized in health care as they are used as a predictor of competency. Mentoring and internships do not play as high a role as they should”.

“We need to teach managers how to prioritize and manage within an ever changing environment which is the nature of health care in Canada”.

“There is need to learn flexibility and change management. We need to learn how to manage our own health and stress and how to support staff to do the same”.

“If I complete a Masters in Business Management degree will I be a better nursing unit manager even if I do not have a degree in nursing as my first degree/diploma? Should all unit managers need a health degree/diploma as a start?”

“To manage for success, managers must commit to ‘life long learning’ and adapting to and managing change”.



“I do believe that learning is a lifelong experience, it is the only means to maintain your competencies and keep up to date to the changes that are positive”.

“I have always viewed lifelong learning as essential”.

“I think the best management training I had was acting as chief steward for our union. Dealing with everyday conflicts between management and union members is an excellent way to identify and/or avoid situations which will result in conflict”.

“Our health authority has always provided excellent continuing education support via our Human Resources department by finding key conferences and workshops. I believe that the return on their investment has been worth it”.

“I recommend a needs assessment to determine the level of experience and formal educational needs of the individual [manager]”.

“There is some responsibility for organizations to provide administrative/management education. I worked 4 years in California, and received a great deal of management/administrative education/networking which was invaluable in helping me understand the huge role changes I was experiencing”.

## **2b) Problems with current management education**

“Current healthcare education in the form of in-service, workshops, seminars lack skill testing for effective learnt outcomes (i.e. self tests, exams, instructor feedback)”.

“We need to be more adaptive, operate without the full picture, less micro management – all of which require education courses that acknowledge this new dynamic”.

“I think it is important to teach managers that there is a distinct difference between leadership and management. A great manager is not necessarily a good leader and I think in today’s environment the individual in that role needs to be both”.

“Management education is an ever-changing dynamic. Research has shown management education has not kept up with the needs of today’s health care managers and making them ‘work’ ready”.

“Managers in health care work long hours in a complex environment. We are also urged to take care of ourselves and not allow work to become our whole lives. Educational opportunities need to be sensitive to these competing messages/realities”.

“Managers require better tools to make evidence-based decisions. Such tools as outcome data, infrastructure support are not easily accessible to front line managers”.

“Rather than single session workshops, I would like to see more specific skills training in relation to health authority practices”.

“So much education happens through workshops which are not conducive to learning an established curriculum. People spend more time telling personal stories”.

“There are many management courses out there and what you get out of them depends on the deliverer. Some are very good and some are not worth the time taken off to attend”.

“I am not sure organizations have a good way to standardize and make sure all managers have good skill sets”.

“All education should be competency based and self-directed learning encouraged. Online learning should coincide with some sort of face to face learning”.

“Education is context-driven, so choices about the type and mode of education are (and should be) a function of the learner and the content being taught”.

“Generally the courses give the tools. However, when I return to work I get caught up in the work, plus peers and upper management often do not follow what was taught, so individual implementation is difficult”.

“I need the opportunity to implement and use the training, otherwise the skills from the experience are not maintained”.

“We need the opportunity to apply skills learned has been lacking”.

“A management course taken at BCIT after completing a Masters degree was too basic”.

“I attended a three day workshop on conflict management. The material covered was too brief due to time constraints”.

“A financial analysis course was not specific enough and did not meet my needs. Each manager had a different budget to figure out and the explanation was too general”.

“I took a project management course recently in which I was familiar with all the material already”.

“The course provided was not at a high enough level. The instructor also did not acknowledge the skills already available in the room”.

“The course had outdated content”.

“Presently what is being offered is material that I have taken in past years”.

“The in-service level education is too brief to be able to implement changes in an organization as broad as the one I work in”.

“Courses that have been the least value have been short with no opportunity to practice new skills and/or no support after the course”.

“The course content was too complex to use in the workplace; too complicated, too lengthy, and not enough practice”.

“I have problems with material that is too high level or does not apply to specific, practical examples”.

“Usually the skills learned are seldom needed so I do not have much chance to use as my priority is day-to-day clinical work”.

“Basic management theory is just that –about the practical or technical nature of the job. What I need to lead effectively is knowledge of leadership, systems, and organizational theory”.

“I have taken courses in managing employees but not in working with unions. I can do a budget with financial help and can manage it but there are a lot of expectations I have no training in”.

“I need to have a degree in finance to completely understand management strategies in health care today. There is not enough financial training for nurse managers”.

“There is not much available, most of this is trial by fire”.

“As a life long learner with a diverse portfolio, all management courses help. What is not helpful is courses on concepts already mastered”.

“Courses are often idealistic in nature. In the ‘real world’ the infrastructure does not support the practical application of techniques, methods, strategies learned to any great degree. Also the philosophy espoused by the course may not be valued by the organization”.

“Courses generally do not touch on topics in my specialty. There are few if any courses that relate directly to my specialty”.

“Courses have dealt primarily with theory and best practices, with little or no correlation to the real world nor to any workplace”.

“I find that courses are not related to the day-to-day operations of a health organization”.

“The format of instruction did not meet my learning style”.

“A generalist application does not have specific relevance to health care administration”.

“I attended two SkillPath seminars in recent years. While the presentations were upbeat, I do not believe that I came away with any concrete skills. In my opinion these were ‘feel good’ seminars”.

“I have been in various management positions since 1983 and have taken numerous management courses. Generally, the most valuable courses have provided directly applicable skills and knowledge to assist me with operational functions and interpersonal relationships”.

“I took a couple of management courses at the University of Toronto that were basically textbook memorizing that I did not find useful. I also took a similar course at McGill University that was based on case studies that I found very helpful”.

“If courses are too private system oriented then they are less helpful in public sector application”.

“In my experience, very generalized management courses have insufficient relevance to managing a large nursing department”.

“In-service courses are often on topics that are the ‘flavour of the month’ and then not implemented fully (i.e. Quality Improvement)”.

“There is insufficient information on current budget realities and specific processes within the health authority”.

“Many courses are too vague, designed to give general ‘big picture’ views. This is easier to do than trying to focus on practical applications in the workplace”.

“Many courses are theory and not practical”.

“Most courses were either just-in-time or after-the-fact”.

“Formal education is better for me than workshops. A workshop tends to lose focus and is driven by the group. I prefer education led by a professor”.

“Often the theory you learn is in conflict with the philosophy approach of your direct report or the organization in general. This makes it difficult to apply that theory”.

“I need the opportunity to implement and use the training, otherwise my skills are not maintained”.

“The opportunity to apply the skills learned has been lacking”.

“Many of the training sessions are theory based and not realistic in their application or expectations”.

“Courses have no application to health care or related to health care”.

“The course content is not part of the present philosophy of the organization”.

“The course is not realistic to the actual working environment. Good theory but not practical”.

“The material is not relevant to my day-to-day work”.

“Short segmented education may be easier to do than longer courses which engulf everything”.

“The material is not specific to my job and what is happening in the community at this time”.

“Management education is constantly changing and often the courses are prepared well in advance and are not actually very relevant”.

“Postgraduate courses within a Master’s program were not health care specific.

“Some courses are very broad. While they may apply to the majority of managers in the room they are not always relevant to me or my departments”.

“Some of the graduate level courses are more theory based which relate to satisfying a graduation requirement and are not practical which does not fit the day-to-day needs of the health industry”.

“The courses which have not helped me have not been public sector oriented and not health care related. Some of the courses could be extrapolated to health care but often the professor did not have a public sector focus”.

“The courses were too academic and not focused on real situations”.

“Current healthcare education in the form of in-service, workshops, seminars lack skill testing for effective learnt outcomes (i.e. self tests, exams, instructor feedback)”.

“Some of the courses are taught in a traditional fashion and I am an experiential learner. The amount of sitting and listening should be kept to a minimum, the amount of doing to a maximum”.

“The in-service presenter assumed the audience was all at the same level and thus had greater knowledge than I had”.

### **Theme 3: Barriers to learning**

#### **3a) The need for organizational support**

“Employers need to take a more supportive approach to management education”.

“Education is seen as a frill rather than a necessity, and yet one is expected to have many new competencies quickly”.

“Organizations need to value and financially support learning”.

“Senior executives need to fully support the education for managers in their organizations. Although clinical training is essential to remain current and to provide excellence in care, managers require additional training in this constantly changing climate”.

“Some senior leaders have no knowledge about what is learnt”.

“Learning is difficult to obtain in rural settings in small hospitals with limited budgets to pay for education and no relief to cover while away on courses, especially when 24 hour call is necessary”.

“Basically, there is no education for those that are not in the large centers. It is much less available to rural managers and less specific to small facilities when you do go to the urban educational sites. We don't speak the same language”.

“If the organization truly wants to develop their own leaders they need to make the tools, opportunities and coaching available. They need to reduce workloads to manageable levels so that people can be able to undertake programs or self-directed learning”.

“I would like to see a greater commitment from health organizations to support managers in ongoing education. I am currently in a MA program and have paid for all of this myself except for \$3000. I have had to use personal vacation time to complete my courses”.

“I do not feel that higher education is always supported by the organization. They ask for the qualifications and verbalize the need to encourage education but do not support it with financial support or flexibility of schedules”.

“Employers need to take a more supportive approach to management education”.

“I am not sufficiently supported in my graduate studies by my organization. The process for determining who gets organizational support for graduate studies is not transparent”.

“Greater support from employers is needed in time away to study with replacement staff”.

“There needs to be some flexibility in the system to allow for some upgrading in the management ranks. At present it is done off the side of your desk with no consideration for workload and time to upgrade”.

“Managers should take responsibility for their own education. The employer should assist them in identifying areas that need improvement and have some in-service/workshops that teach how to deal with situations for the front line [management] level”.

“With never-ending pressures to be fiscally responsible, education seems to be on the back burner so to speak”.

“Senior leaders haven’t subscribed to management courses the organization is encouraging”.

### **3b) Lack of time for learning**

“Learning and courses need to have better time management effort support within the organization. It is difficult to put in the hours needed to do the job and study”.

“Education often seems to be tacked onto a hefty work schedule. This has discouraged me from taking on more learning opportunities”.

“Hours of work and responsibility have increased. Time off is extremely important otherwise I can’t keep up with work. This leaves little/no time for formal education which I find quite disappointing, but I can’t keep up the pace of work and study”.

“The major challenge of management education these days is finding the time in work life that require minimal 50-60 hour work week”.

“Participation rates [in attending education programs] are directly tied to hours of work flexibility employers provide to those wishing to participate in educational programs”.

“Cost and time are the big factors and the greatest hindrance”.

“To encourage education for managers you must give them time to be reflective. The situation as it is now is one with constant, unrealistic deadlines which does not allow the manager time to study and only adds another pressure point”.

“Although the health authority supports education initiatives the time that one requires to attend to these initiatives is now spent at the desk trying to cope with daily workload”.

“Hours of work and responsibility has increased. Time off is extremely important otherwise I can’t keep up with the work. This leaves little/no time for formal education which I find quite disappointing, but I can’t keep up the pace of work and take courses”.

“It is very difficult to find, to make or to justify the time to attend educational events. This is very often because of the constant demands and/or priorities on a manager’s time, the reduction of support staff (clerical, administrative)”.

“Managers don’t have much time for extended education due to high levels of responsibility and tasks to be perform”.

“Managers on the whole are so busy with day-to-day operations that there is little time for learning specific skills on the job. It is important to offer courses to them on paid time”.

“The biggest challenge for me is to find the time since I am already working 9-10 hours a day”.

“There seems to be little time available for managers to take courses to help with their managing work as this is only a portion of the work assigned to them”.

“Time is a critical piece. Health authorities can support managers in their learning by making it a priority and expectation that people take time for education”.

“To encourage education of managers you must give them time to be reflective. The situation as it is now is one with constant, unrealistic deadlines which does not allow the managers time to study and only adds another pressure point”.

“Time off to study is a critical necessity that is not recognized by health care organizations [health authorities]”.

“With health industry changes usually comes less time to learn new skills”.

“It is difficult to put in the hours needed to do the job and study”.

“Courses are often very long and work days are long, so it is hard to find time to continue to work in the evening. There is no time for internet education during a regular work day”.

“In order to have the time and opportunity to learn, the workload must be addressed. This could be easily done by having secretarial and time-keeping support (as well as clinical support depending on the portfolio). I am not convinced a smaller portfolio is the answer”.

“Extensive role demands require working extended hours which limits the ability to participate in additional study”.

### **3c) The need for educational funding**

“As there is a need for life long learning, organizations need to commit more support, financial and otherwise to make learning easier and more accessible for managers”.

“Cost and time are the big factors and the greatest hindrance”.

“The organization could support managers more financially and with time to achieve graduate degrees and graduate certificates related to management and delivery of health care”.

“Education and professional upgrading should be encouraged and supported including financially”.

“Financial assistance would make it easier for more managers to be on the continuing learning curve, as educating oneself is extremely costly these days”.

“There are inconsistent policies regarding financial assistance for higher education. Some health authorities/organizations pay 50% or more towards a Master’s degree while others pay little or nothing”.

“It would be helpful to have an option of taking a sabbatical for work-related education with some financial support from the organization (and of course with required return of service)”.

“Managers at all levels need to have the financial support and understanding of their organizations and they need to be encouraged by their organizations”.

“Funding for management education is selective and funnels everyone to do the same course or you get no funding. Encouragement for Master’s level of education does not exist in fact you are penalized for doing higher education like your Master’s”.

“Process for determining who gets organizational support for graduate studies is not transparent”.

“Organizational leaders need to provide more support in terms of covering a larger proportion of the financial expenses and providing time-off needed for study and attending classes”.

“Organizations should consider free workshops or in-service education for managers to continually improve management skills”.

“The FHA [Fraser Health Authority] needs to promote ongoing education by paying for the successful completion of approved courses”.

“There is less financial support available through the health authorities for leaders to further their education”.

“It is unclear what the organization expects and what individual financial support is available”.



“I would advocate that financial incentives be made available for the completion of an MBA or Master of Health Administration be made available for managers”.

“Inconsistent policies regarding financial assistance for higher education. Some health authorities/organizations pay 50% or more toward Master’s degrees, others pay little or nothing”.

“More funding needs to be provided for scholarships. Interest free loans to managers taking approved graduate level courses is a necessity as executive style programs are expensive (approx \$19,000 per course)”.

“The organization should support managers more financially and with time to achieve graduate degrees and graduate certificates related to management and delivery of health care”.

“Time and money should be submitted within a managers budget to develop and carry out their own learning plan and goals”.

“As there is a need for lifelong learning, organizations need to commit more support, financial and otherwise to make learning easier and more accessible for managers”.

“I wish the process for requesting funding to attend educational activities was not as difficult e.g. trying to find out who has money to spare for a conference/seminar and negotiating for the funds”.

“Very little money is invested in the organization for management education. It is necessary to meet restrictive and rigid criteria for funding for higher formal education”.

“I would like to see remuneration for courses taken”.

“The Health Authority needs to promote ongoing education by paying for successful completion of approved courses”.

“To support management education to benefit health care, there needs to be educational funding set aside that is not health authority managed so all staff have the ability to grow/learn regardless of how rich/poor our regions are”.

### **3d) Learning access issues**

“Basically, there is no education for those that are not in the large centres. It is less available to rural managers and less specific to small facilities when you do go to the urban education sites. We don’t speak the same language”.

“Access to education needs to be more consistent and available; management/ leadership education needs to be available for individuals at the direct care level to access to begin to develop their skills and then have a pathway to progress along”.

“Education must be accessible and considerate of time management demands. A needs assessment is needed to determine the level of experience and formal educational needs of the individual”.

“Since moving to the Interior Health region I have found that the opportunities to access courses for management skills are really limited and I don’t think we should have to travel to the coast to be able to access them”.

“Must be easily accessible and considerate of time management demands. Recommend needs assessment to determine level of experience and formal educational needs of the individual”.

### **3e) The need for more educational credit**

“I would like to see more courses offered that lead to higher formal degree. Often many courses are taken but no recognition given”.

“Academic credit should be based on the skill demonstrated, not the type of course or experience. Undergoing a type of process does not guarantee a demonstrated outcome or product”.

“More credit should be given to work experience and previous educational requirements”.

“Many of our managers, although they have participated and upgraded their skills in many ways do not receive enough recognition for their experience in the same way as is often reflected by the degree recognition”.

“Fifteen years of managing six clinical areas should amount to at least a Master’s degree and there should be better compensation for the same”.

“I think that experience should be more recognized”.

“If experience became an option for academic credit there would need to be a specific criteria for evaluation so that it is not twelve years of doing the same thing over and over rather than twelve years of new and different learning experiences”.

“More credit should be given to work experience and previous educational requirements. The educational opportunities available today are completely different from what was available thirty years ago”.

“Rather than a set group of courses leading to a master’s degree, course work and work experience should all count towards a generalist degree”.

“Too much emphasis is based on degrees earned and not enough credit for experience. Management positions require degrees but they should also take into consideration certifications and experience”.

“If the in-service programs and workshops lead to a certification or degree, it would be more attractive”.

“I do not believe that formal education is as important as the ability to do the job. However, in today’s management environment having formal education gives the manager instant credibility”.

“Academic credit should be based on the skill demonstrated, not the type of course or experience”.

“I would like to see more courses offered that lead to a higher formal degree. Often many courses taken but no recognition”.

“Rather than a set group of courses leading to a master’s degree, course work/work experience should all count towards a generalist degree”.

#### **Theme 4: E-learning for health-care managers**

##### **4a) Positive and negative views**

“I do not think Master’s level degrees should be handed out for web courses. They lack context, working with others, depth that my credentials have”.

“E-learning should coincide with some sort of face-to-face learning”.

“I wish there were more flexible ways to complete my second masters degree program, as online learning only goes so far”.

“I live in a remote area. Travel is a big issue. I need to get my education from where I am. There are disadvantages, but video-conferencing and chat rooms can be helpful in reducing the effect of isolation”.

“If you have met the group of participants before the online course, I think it is the best way to do this type of education. The familiar faces translate well onto the online environment”.

“Courses I am interested in doing have not been available in an internet-based course”.

“Options for this type of learning are not readily available. Also the format is less than ideal”.

“Much time is taken at work and I’m not keen on working when getting home. However, I would like to work on a Master’s program but not sure I will have much chance with my job”.

“Most courses I’ve seen are pretty basic and my knowledge level is above them. I prefer more interaction. My husband recently completed an internet course with video role playing. It was fantastic”.

“I have not had time to pursue courses in the last few years when internet-based instruction became more common”.

“I personally found no advantage to e-learning and dropped the course”.

“After spending a considerable part of my day on the computer with a glaring screen, the last thing I think about is taking a course online”.

“It may be my age but I have spoken to many health professionals who express similar frustrations with e-learning courses and laud small group experiences for interactive learning”.

“Lack of time and energy for spending the evening/weekend on the computer and easier to procrastinate than taking an in-person course”.

“I don’t like the internet based learning mode, it is too cumbersome, too old to learn that way. If I am frustrated then that will be reflected in the learning process”.

“I have done two credit courses online and hated them. Having done numerous other courses as distance education and classroom, I found the online course inflexible with assignments, long delays in grading assignments and there were problems with the interaction between students and the instructor”.

“I have been actively pursuing my degree for over five years through distance education (two courses left). The last course was web-based and there were pros and cons to both options. Distance education is the only option for me as I work full time”.

“I haven’t tried internet-based learning. I am old fashioned and enjoy the stimulation of student/instructor interactions in a classroom format. The indirect learning obtained from students from other industries is invaluable”.

“Online learning can take longer, although I have found it very effective”.

“Don’t like the Internet-based learning mode, it is too cumbersome, too old to learn that way!”

#### **4b) A need for knowledge sharing**

“As middle managers, there is a need to learn from each other and to share knowledge. This has to be more formalized and utilize the capacity of managers to support each other”.

“Experience cannot be taught. Qualifications are over emphasised in health care as they are used as a predictor of competency. Mentoring and internship do not play as high a role as they should and the value of communication and the ability to understand how people are motivated are not seen as more than a set of processes that can be taught”.

“Mentoring is a much neglected and valuable management education strategy which organizations could employ with relatively little cost and effort”.

“There needs to be significant improvement in the mentoring system if there are going to be quality managers in the future ready to take in the increasing levels of responsibility”.

“There is still an assumption that you grow into it [a management position] but mentoring may be useful in this”.

“Would like to see more mentoring type programs. I would like to be able to learn from others who have gone before me. I rarely have time to even speak with my supervisors. They are too busy dealing with really big issues”.

“We require more formalized mentorship between seasoned managers and more junior managers”.

“Find the managers in the system who are doing a phenomenal job, relieve them of their tasks for periods of time in order to have them mentor other leaders”.

# Appendix K

## ***Qualitative Data/ Senior Management Interviews***

There were one hundred and twenty-one quotes obtained from interviews with the thirteen health care managers. These quotes have been collated into six key themes which are: anticipated organizational change in the next 5-10 years; support for health-care managers in dealing with health reform; essential management skills in today's health industry; the importance of management education for health-care managers; support for increased learning for new skills; and the role of e-learning for health-care managers. Under each of the key themes the quotes have been further broken down into sub-headings for easier reference. Qualitative data tables were presented in chapter 6. Selected quotes were used in the material found in chapters 7 and 8.

### **Theme 1: Health reform**

#### ***1a) The need for ongoing organizational change***

“There may be a possible move to have physicians and pharmaceutical budgets moved to the health authorities. Long-term planning for the health industry needs to be focused on:

- Safety;
- Improved collaboration with the front-lines;
- The need to look at the economics of health care differently, such as a need to understand the Insurance policy and the Canada Health Act and what the ‘shared’ aspects are between the federal/provincial governments;
- The need to adapt to changing demographics;
- The need to know what constitutes the ‘open market’ segment and where private services can be considered, as there will likely be more purchase of private services”.

“I believe there will be another reorganization of the health industry with more services being centralized, such as telecommunications, statistical data, finances and may be lab services. There is also micromanaging going on with regard to surgical waitlists and emergency room and incident management....We may go from six health authorities to something less or move all the way back to a centralized system”.

“Physicians are independent contractors and are key change agents in the health industry with the organization having limited control over them.....A great deal of time and energy is needed in the development of a physician infrastructure, to have them part of the management team. It will likely take 5-10 years for this change”.

“The health industry needs to be redesigned and aimed more effectively at the aging group to achieve the ‘right services with the right staff’, which is not happening now. At the present time the industry is designed around acute care”.

“It is important that the organization [health industry] not slide back into the old style of management. Accountability is the key to everything we do”.

“The health industry needs to determine who are the key stakeholders so that special interest groups are not getting the majority of attention”.

“The provincial government is presently in the midst of a laboratory [diagnostic services] reform project which will likely take three to five years. All laboratory managers are experiencing huge changes. While there is an expectation that the health authorities will eventually take over their own laboratory work, there are discussions also on outsourcing all emergency and out-patient work. The private labs have taken the government to court and there is now uncertainty as to what this will mean to the reform process. The government seems to be backtracking”.

“There is a need to develop and implement regional strategies to support a quality practice environment for nurses in a climate of change and fiscal restraint”.

“There is a need to integrate best practices across the health authority”.

“For public health there is a need for greater integration and collaboration with non-health groups (i.e. Aboriginal communities, schools, community groups etc)”.

“Frontline managers have the toughest job in the industry. While it is essential for senior managers to have line management experience, with larger organizations this is becoming more difficult. There is not enough management strength coming through the ranks.....While senior management may be expert in certain areas they are not comfortable nor do they have the know-how to manage a frontline position. There is even consideration that senior managers may need to have front line management experience if positions are to be filled”.

### **1b) Not enough support for managers**

“No, the whole process of selecting, training and nurturing new managers is in need of considerable rethinking. ....We are still thinking that getting someone from another province is all we need to address the Chief Executive Officer and top management needs within the province. This is no longer suitable for the management responsibilities that managers face today”.

“Change is coming fast and furious. Managers are doing their jobs but some are finding this constant change very wearing. The financial constraints are ongoing and more is expected as we try to do more with less. Some see no end in sight and even more cutbacks. There are some managers who are already looking for other options such as early retirement and getting out of the health industry”.

“Unless the health industry makes the career option for management attractive, the industry will suffer the same problem as other industries. Clinical professionals will not seek a management position if there is too much aggravation, no respect or they sense there is a lack of value in their organization. Other managers (i.e. accountants,

human resource managers etc) can go elsewhere. If there is too much stress they will leave the health industry”.

“Attendance is an issue with employees facing so much change (i.e downsizing, cost saving, etc) and more change is expected. Managers are discouraged as they feel there is no end in sight. They are having a difficult time dealing with these issues”.

“I am concerned with how managers are looking. Managers are looking really tired and there is concern that they are getting too overwhelmed with the situation. They feel they have no satisfaction in their work and they are ‘flying by the seat of their pants’ with no end in sight. This needs to be addressed”.

“There is a limit as to the amount of stress managers can handle. So far, most changes in the laboratory [diagnostic services] have been familiar but the management role is getting harder and harder”.

“No, I do not think there is enough support. No one has time for mentoring or giving support especially to new managers who are having more difficulty”.

“Managers need additional support. While some have been successful in the past in their management role, they now need to rethink their role and have broader skills for future needs. In other words, the skill sets of the past are not necessarily the skills needed for the future.

“Today there is a tremendous dedication in health care but a sense of being overwhelmed, with feelings of never doing enough, never getting enough resources and constant pressure to try and do more. There is never enough time for professional development. There is also not enough time for reflective and critical thinking. Managers are in need of learning how to think”.

### ***1c) The need for succession planning***

“With the average age for Directors being fifty-four, and fifty for managers, we are in need of succession planning if many management positions are to be filled in the near future. We need to know how to prepare managers at different levels to move up”.

“In the next 5-10 years the health industry will experience an exodus of a large number of retirees. The effort now is to get all health professionals working at full capacity. Yet, while the unions argue for greater full-time work many senior employees are pressing for part-time work”.

“The organization needs to make sure they have the proper people in place for stability. It is essential to train the backbenchers to assume a higher management role”.

“We are looking at a retirement issue in the next ten years due to the age of many managers. In addition, we are having problems getting professionals to take middle management positions as the financial benefits are low and they do not have the training and support that would help them. Taking any training becomes an individual



decision. On the other hand, there are older managers who seem unaware their roles have greatly changed and they are trying to manage as in the past but with many more (sometimes up to two hundred) people reporting to them”.

“Mentorship and succession planning are absolutely needed. Junior managers should be prepared to be promoted towards further education and training, and to be better at computers so they can handle incremental increased responsibilities”.

“There is an ongoing scarcity of health professionals (i.e. nurses, pharmacists, physicians etc) and this will be come at the same time as a steep increase in immigrant population and an aging population with increased health needs. BC is a big retirement area of Canada”.

“As the health industry divests more of the non-health care services (outsourcing), the health industry culture will be different with a greater percentage of knowledge-based workers. This group will be in a competitive market with other health authorities and other health organizations across Canada”.

“Succession planning is at the top of the list. Within the next three to five years there could be as many as half of our managers (including clinical managers) needing to be replaced just because of retirement”.

#### ***2d) Inadequate support for new managers***

“While the ‘battle-experienced’ managers’ are well prepared there are many new managers coming into the organization on an annual basis who are less prepared. The new ones are the problem as they do not have the ‘testing under fire’ which is critical for senior management. In the last two years some areas experienced a thirty to forty percent turnover in management. The high turnover may be due to age but also some managers do not have the political/community/people skills which today’s manager’s need”.

“Everyone is in a new role as the health authority has had a number of major reorganizations in the past years and everyone’s role has changed”.

“As a minimum there should be mentors and coaches (particularly coaches) with intense contact at the start and a gradual weaning off. At the present it is ad hoc and only provided to those who reach out for help”.

“About fifty percent of managers are in new positions and while most have strong clinical expertise they do not have the option for additional management education or help with feelings of isolation and needing increased confidence in dealing with their new responsibilities”.

“We have about twenty to thirty percent of new managers in the health authority”.

## **1e) Stress in the workplace**

“There is some support. A course is provided on stress management and managers can get personal coaching but I’m not sure if it’s enough”.

“I do not see as much change as others keep talking about. While the health industry seems to have rearranged the ‘cap’ of the organization (which means about ten percent have seen a change in their duties), many have experienced minimal change. It all depends on the nature of the person as some were not wanting any change to occur”.

“It depends on the individual. It has to do with coping with uncertainty. Some managers want greater detail and find the lack of clarity a problem in giving leadership to others. Then there are those who find it difficult to admit they do not know”.

## **Theme 2: Essential management skills in today’s health industry**

### **2a) People skills**

“We need to identify the short supply skill gaps and how to meet these”.

“There is a need to identify the core competencies for managers and to understand where the strengths lie and what need to be strengthened”.

“Managers need a better understanding on how to build relationships”.

“Managers need strategic leadership which includes negotiating and strategic communication skills”.

“Health reform has introduced multiple stakeholders, and managers need to be able to deal with multiple levels and groups of people who can derail any initiative the organization tries to do”.

“The main areas are finances and technology”.

“The most needed management skills are: communications, project management, people skills (team building), strategic planning, working with personnel, being able to work smarter and having a resiliency to change”.

“Conceptual skills, organizational ability and communication skills”.

“Personal leadership, very well grounded in values and what they stand for and health-care managers need more effective communication skills”.

“Leadership skills are important. Health-care managers need to be able to work in different environments and have negotiating skills. Old autocratic methods no longer

work. We spend too much time doing damage control when a poor management approach has been used”.

“Managers need to show that they care about their people”.

“Managers need a clear understanding of their own role so they can think on their feet to provide leadership as change occurs”.

“The most needed management skills are: communications, project management, people skills (team building), strategic planning, working with personnel”.

“There is a need for managers to become more business-oriented and have a better understanding of people, all encompassed within the ever-present climate of change and stress”.

“Managers should have human resource management skills, know how to deal with unions, and have financial management skills”.

## **2b) Change & complexity**

“Managers need to be able to effect change and how to deliver health care differently. A lifetime job is no longer possible”.

“Managers need to understand the complexity of the organization. They also need to understand finances as it relates to their budget, systems thinking and how to use statistics”.

“There is a need for managers to become more business-oriented and have a better understanding of people, all encompassed within the ever-present climate of change and stress”.

“Communications, working smarter and a resiliency to change”.

“There should be on-going in-service education to keep managers up-to-date on such topics as change management philosophy and legislation”.

“The emphasis in skill training needs to give managers the skill sets to be effective in such areas as leading groups and particularly in how to lead people through change”.

“Managers need the competencies to handle the change which is expected in the health industry. The industry is moving away from the old centrally managed, hospital-oriented, approach, to a more decentralized structure where different management skills will be needed. Managers will be making more on site decisions”.

“Relation building, communications, self-awareness and increased confidence because change is happening so fast”.

“Managers will be expected to take on larger and different roles in the organization [health authority] and this will be needed at all levels”.

### **2c) Financial skills**

“There is a basic need for greater financial management skills. A health-care manager is really disabled if he/she does not have this skill”.

“We need to know how to manage better with shrinking resources, how to support decision-making with statistical data, many issues with regard to labour relations and legal liability as more clients are questioning their care”.

“The main areas are finances and technology”.

“We need to focus on capacity building and sustainability”.

“There is a need for managers to become more business-oriented and have a better understanding of people, all encompassed within the ever-present climate of change and stress”.

“There is already \$100 million spent in private contracts in the health authority and this could rise to \$200 million. Health-care managers are not versed in dealing with contracts”.

### **2d) A clinical background is no longer enough for managers**

“I think those with clinical responsibilities should have a foundation in their specialty. Then when they get into management they should augment this education with either courses or another degree in order for them to manage the complexities of their new responsibilities. They need to have a better understanding of labour relations and finances. At this time I have a few new managers who do not have this education and I spend a great deal of time teaching them about finances”.

“Fewer clinical professionals are being promoted into management”.

“Where a clinical background is not a prerequisite we seek individuals with greater management and leadership skills. In areas where financial skills are needed this is a priority”.

“Some managers seem to be born with management abilities while others with academic documents may not have the implementation skills. In Public Health most managers come from the ranks”.

“We mainly hire professionals with clinical/technical skills but these days they need more management skills”.

## **2e) Planning skills**

“Managers have to do more than get input for their plans, they also need to get agreement and commitment to the plans”.

“With competing priorities managers need to be able to make clear arguments on resource decisions”.

“Managers need to know more about systems and dealing with contracts for the purchasing of a number of health services instead of the old annual budget process of the past”.

## **Theme 3: Management education**

### **3a) Lack of time for learning**

“There are a number of management courses offered, but some nursing managers with very large portfolios often do not have the time to attend such courses....They need to allow for a half-day to attend a course and this is too long away from their areas”.

“I think that time is the biggest barrier to learning for most clinical, and maybe all managers. Most managers are dealing with very large portfolios and getting time to attend or even look at anything is often not possible”.

“Time is the biggest barrier to learning for managers especially for those with family responsibilities. Age may also be a barrier, as some older managers feel they need to put their lives on hold for several years to get another degree”.

“Some managers refuse to take up the challenge of additional education. It is a mind set, including stating that they are too busy. If they really wanted the education they would find the time”.

“It would be impossible for laboratory [diagnostic services] managers to do any online learning from their desk computers as they do not have enough time now to get their work done. Managers have to take work home as there is not enough time in the workday to attend to all the issues”.

Barriers: “time, motivation, funding and support from the organization”.

### **3b) The type of management Education is unclear**

“A management degree or management courses should be considered. The best programs are just-in-time learning as it addresses current problems and managers can apply this learning to an immediate situation”.

“I have promoted a policy that an individual needs a management degree if they expect to be promoted into certain positions. The health authority will support them in getting their degree and they must have support from their family”.

“I believe that health-care managers should have a mixed educational background. Managers need more than technical/professional backgrounds to be effective at their jobs”.

“Some MBAs do not have sufficient understanding of the health industry”.

“It depends on the individual. A degree indicates they are willing to learn but the real test is whether they can perform and/or are willing to learn on the job”.

“I have some excellent managers without any management academic qualifications but I believe that at a certain level within the health authority the individuals need a degree, possibly in management”.

“Presently we have a number of online courses which are provided through professional associations and BCIT (British Columbia Institute of Technology). Many of these are on clinical topics as breast feeding, clinical updates and quality assurance. But again managers need the time to access these courses”.

### **3c) Learning is a personal responsibility**

“I think the main barrier in preventing managers from pursuing additional education is fear. For many it has been some time since they were in a formal educational program and some use the argument they are too busy as a cover for this fear”.

Barriers: “time, motivation, funding and support from the organization”.

“This varies by different organizations. Actually, the responsibility lies with the individual whether they wish to pursue more education”.

“It has been noticed that the performance of managers trying to balance work and study tends to deteriorate as they just have so much energy”.

### **3d) Management education as a promotion policy**

“We do not have written policies regarding management education. The real test is whether the individual can perform in their new management position”.

“Education is very important. We need to raise the bar when hiring managers and expect them to have all the basic skills before being promoted into a management position”.

“All management positions have minimum education requirements. In general, it would be desirable for health care leaders to have the broadest education so they could handle complex responsibilities. Health care managers today need more than clinical and technical expertise”.

### **3e) Need for a management education plan**

“There needs to be a strategic plan for the education and support of managers. Often we are given ‘one off’ (i.e. one of a kind) opportunities which are not planned or evaluated.

We are developing ‘streams’ for health-care managers as we find that younger managers are more likely to have the academic preparation for their roles than older manager”.

“As managers we need to know what the organization wants management to be and this would then clarify what education is needed”.

### **3f) The need for financial support for learning**

“Nursing managers are often women who are facing competing demands, many have children and need to share their time with families. It is not always possible to attend education programs if the manager is not supported financially and with allocated time”.

Barriers: “time, motivation, funding and support from the organization”.

## **Theme 4: E-learning for health-care managers**

### **4a) Technology as a barrier**

“I think technology may be a barrier for some managers. We have noticed this in the health authority when it comes to using technology”.

“New managers are much more computer literate. The skill is in reading reports and making decisions, and this comes with experience”.

“While some of the younger managers have computer skills they have difficulty in completing simple reports. The older managers have a resistance to computers, even doing Excel spreadsheet and Word documents , but they know their field”.

“E-learning is good for the self-disciplined, self-motivated learner .....The older student once they adapt to the technology find the technology convenient as they can adapt it to their busy schedules while holding down a job”.

“Younger managers are definitely interested in e-learning but those over forty are not interested”.

“E-learning seems to suit those who are self directed and self motivated. Personally, I found that e-learning presented too much separation between the instructor and the student, no social support and there was no tutor interaction”.

#### **4b) Preference for blended learning**

“I think the best delivery method is a blended format with pre-reading, interaction, mentoring and/or coaching”.

“I think a blended form of learning would be best for managers as there is need for interaction with peers and mentors. The e-learning portion could have a mentor and face-to-face time for interaction.....Some learning must become e-learning as class time is too time consuming”.

“Health care is not suited to pure e-learning as health is a people industry. At a time when the expectations are growing for managers they do not have the time to even access e-learning. Mentoring would seem to be more effective and practical”.

“The feedback from most managers is that they are most comfortable with a blended learning program with a mixture of face-to-face and possibly e-learning. Managers find that the face-to-face contact allows them to share experience and strategies which has proven to be more effective in meeting their needs”.

#### **4c) Need for different learning methods**

“We need to develop different tools for different learning topics”.

“We need to do more e-learning but we will have to be selective. Bringing people together has many benefits in this changing health culture. We will definitely make more use of e-learning in the future, it is a matter of choosing what is best suited to this media”.

#### **4d) Some managers already familiar with e-learning**

“I have a number of managers taking their degree or courses online and they seem to be doing fine. The teleconference/video conferencing seems to be preferred to purely online programs as there is more face-to-face contact”.

“E-learning can be great. I did my MA through Royal Roads University which included several e-learning courses”.

#### **4e) The need for quality e-learning programs**

“Any educational programs need to be of quality.....Today’s health professionals do not have the time nor the patience for poor educational offerings. These are adult learners with heavy responsibilities and they are less tolerant today”.

#### **4f) The need for tutors in learning**



“Any topic can be delivered by e-learning as long as the individual is comfortable with this type of delivery. A mentor or someone to talk to would be helpful.....one with sufficient understanding of the health industry”.

### **Theme 5: Knowledge sharing for health-care managers**

#### **5a) Managers need to be able to locate people and information**

“Health-care managers need to know ‘how to find the answers’ by using technology”.

“Navigating the organization has become a key problem because of multiple changes in the industry. Some managers do not know who to talk to”.

“Managers who come from outside the health authority need to get an understanding of when to seek help, who to go to and what to do regarding such items as union collective agreements. At this time this is not being addressed”.

“Managers need to know who to call to get advice”.

“We will need to find ways to use technology more effectively. The future will see community health nurses wanting to communicate by wireless technology to physicians from the client’s home. In addition there is a need for a more seamless system of client health record and an integrated health system”.

“There is a great value in sharing information but this depends on motivation”.

“Conferring with peers would be helpful to managers. The issue would be the time”.

“There is a need to create space for managers to connect with each other in building relationships. This region has three unique working cultures which must come together”.

#### **5b) Knowledge sharing already familiar to some managers**

“Nurses already have a type of listserv with their professional nursing association where they post issues. There should be more of this”.

“The Information Technology group already has a common user group which is useful as long as other health authorities use the same software”.

“Public health already has a listserv in which we can post topics for other public health professionals around the world. This is truly valuable. It shortens the gap between the researchers and the frontline workers. Anything that will shorten this gap in health care is a valuable asset”.