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
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Part 1

Contextual background to healthcare and health information services

Health services: a contemporary approach

Graham Walton

Introduction

Information services do not function within a vacuum. Indeed it is likely that the library and information service (LIS) which does not take into account the external environment will quickly cease to exist. The providers of services must look to the outside world and create regular 'snapshots' of what is happening in the external environment. A key skill is differentiating between those issues that will significantly impact on LIS, those that will have limited relevance and those with minimal relevance. For those providers of healthcare LIS the dangers in ignoring the health environment are two-fold. Services can be developed that are not required which will result in the LIS becoming atrophied. The other risk is that necessary services will not be developed and prospective users will go elsewhere.

The purpose of this chapter is to identify the major drivers that are shaping the health external environment at the beginning of the 21st century. This chapter is structured around a Sociological, Technological, Economic and Political (STEP) analysis of the health external environment. Johnson and Scholes (1999) have outlined the value of this approach where the STEP analysis identifies key environmental influences that are likely to drive change. This analysis should help LIS staff consider the differential impact of key drivers on the strategic options available.

Providers of LIS could use the STEP analysis to consider strategic options but that is not its primary purpose. It provides a structure to the many diverse and influential drivers that are shaping healthcare. The intention is to provide an informed insight into the challenges facing health service providers.

This STEP analysis has been developed through the contributions of various experts. Between June 1999 and October 1999 a draft STEP analysis was produced. This was circulated to a range of professionals involved in healthcare delivery including a consultant surgeon, a research physiotherapist, an organizational performance development officer and a commissioning support manager. They refined the analysis which resulted in the final establishment of the drivers that provide the structure for this chapter. In *Sociological factors* the emphasis on self, health inequalities and demography (especially the increase in the numbers of elderly) were identified. Information

and Communications Technology (ICT), biological and pharmaceutical developments and the development of medical equipment made up the *Technology* drivers. In terms of *Economic* factors, cost containment, evidence based practice and rationing were included. Finally ideology, collaboration versus cooperation and globalization were established as key *Political* issues.

The literature used to provide detail on the STEP factors has been identified using three important criteria: currency, expertise of authors and the authors' abilities to present comprehensive overviews. Interested readers will be able to follow up specific source material to expand on the level of detail given below.

Sociological

Emphasis on self

In society, people are being expected to take more responsibility for their own lives in many areas eg education, pensions. This is mirrored in healthcare with the move to patient or client empowerment where the patient is seen as part of the healthcare team and works in partnership with clinicians (see Chapter 5). They are involved with decision-making about their treatment. Empowerment is concerned with enabling people to take control of their own lives, and the systems and processes that enable them to do so. This trend was first evident in the area of special needs but is spreading into other aspects of healthcare. Barlow and Harrison (1996) describe the trends where consumers are given more power and are placed at the centre around which services must revolve.

The emerging literature relating to patient education indicates that the emphasis should be on increasing patient influence and involvement in the therapeutic regime and encouraging the patients' potential for self-care (Skelton, 1997; Van Eijsk and Haan, 1998). This move to patients being empowered and taking control is demonstrated in the increasing use of complementary medicine. Barnes (1998) points to the UK homeopathy market alone being worth £20 million. In the United States 34% of Americans have used at least one unconventional therapy and annual expenditure on these therapies was \$13.7 billion (Vincent and Furnham, 1999).

Inequalities

In 1978 the World Health Organization issued the Declaration of Alma Ata which acknowledged the global inequalities in health (World Health Organization, 1978). Health inequalities are present at many levels. There are marked differences in health service provision in the developed compared with the developing world. Many diseases, which are seen as minor and easily treated in the developed world, are life-threatening in the developing world. At the continental level, inequalities in healthcare have been found across 11 European countries (Mackenbach et al, 1997). In all these countries the risk of morbidity/ mortality is higher in lower socio-economic groups. Whitehead, Scott-Samuel and Dahlgren (1998) highlight that concerns are being expressed across Europe about health inequalities and that the gaps may be widening. Inequalities are also present within different regions in the same country. Shaw, Dorling and Brimblecome (1998) provide evidence supporting a widening gap between regions. Research from Bristol University is reported by

Laurence (1999) to illustrate this disparity. The death rate in people under 65 is now more than two and a half times higher in the worst parts of Glasgow compared with the prosperous parts of southern England.

Demography

Many authors have identified that a significant factor for healthcare is the increasing life span. As people live longer they will form a greater percentage of the total population.

Life expectancy has increased 2.5 years in Britain between 1971 and 1991 (Ebrahim, 1997)

number of old people aged over 75 will increase by 80% over the next 68 years (Appleby, 1998)

this century alone expectancy has increased by more than 25 years (Butler, 1997).

The implications for healthcare include increased health costs (Appleby, 1998), the crucial role of family/friends as unpaid carers (Ebrahim, 1997) and the increased need for medical research (Butler, 1997). The most significant impact of an ageing population on healthcare is that the older person has increased susceptibility to acute diseases (eg falls, infections) as well as chronic ones (eg cirrhosis, emphysema). Health professionals will have to treat increasing numbers of chronic and acute illnesses as the elderly population increases. They will have to establish how life can be added to years not years to life.

There are other demographic and epidemiological factors that will impact on health services. These include the dramatic impact on the structures of families (Cox, 1997) where there will be fewer young people around. Increased divorce rates, more women as family heads, more working women, high levels of teenage pregnancy and increased rates of unemployment are also significant.

Technological

The technology drivers validated by the health professionals were reassuringly similar to those in the literature (Wasunna and Wyper, 1998). The cautionary overview provided by Wasunna and Wyper highlights the problems and pitfalls at a global level attached to integrating technology into healthcare. The issues attached to the introduction of technology vary considerably depending upon whether it is in the developed or the developing world. It is impossible to do justice to all the technological developments impacting upon health. Replacement and assistive devices, nanotechnologies (molecular manufacturing) and environmental and food technologies are all relevant in the wider health environment but are merely noted here.

Information and communication technology

The dramatic developments in information and communication technologies (ICT) have significantly impacted on health services. Telemedicine is a discipline that aims to give equal access to care whether a patient is 'in the Scottish

Highlands . . . in the Australian bush . . . frail or elderly' (Doughty, 1998, 36). Telecommunications allow data to be transferred efficiently from one place to another. More powerful computers organize the processing, storing and retrieving of information more efficiently than otherwise possible. Electronic developments ensure that data can be inputted automatically from sensors. Wallace (1998) has provided a balanced perspective. He outlines the two opposing arguments about telemedicine. Some see that it 'will do for healthcare what personal computers have done for the office'. The opposing perspective is that the clinician/patient relationship is threatened and telemedicine is an intrinsically unsafe way of practising. There are also significant barriers to implementation. These include the gap between health needs and the technology, patients' resistance, clinicians' resistance, confidentiality, data security and health service management systems. The implications of ICT are that geographical location will no longer be important. Paradoxically Wasunna and Wyper (1998) emphasize that these developments are a feature of the developed world. A technology that is supposed to remove distance barriers may in fact be reinforcing the difference between the developed and the developing nations.

Towards the end of the 1990s the installation of the NHSnet began to impact upon health professionals. The likelihood is that easy access to a networked computer will be essential for many facets of healthcare delivery. Spitzer (1998, 165) has observed that 'control of databases, accessibility to knowledge and management of information is likely to become critical to professionals and lay people alike'. There is evidence in the UK that problems such as limited access to computers, low specification machines, absence of NHSnet connections and limited information technology skills need to be addressed before ICT is integrated into health services (Capel, Banwell and Walton, 1998).

Biological and pharmaceutical developments

The impressive developments in biology and pharmacology witnessed in the 20th century have continued at an unrelenting pace. Advances have occurred in molecular and cell biology. There is a more detailed understanding of the immune complex and genetic disorders. Progress in genetic science is leading to applications in many areas of clinical care (Bell, 1998). These include early diagnosis and the discovery and development of drugs. The human genome project is having a major influence on healthcare (Brooker, 1999). It is acknowledged as the largest internationally coordinated undertaking in the history of biological research. The project is providing extensive new knowledge on the genes involved in inherited diseases, birth defects and even susceptibility to infection. It is becoming much easier through the project to understand, detect, prevent and treat many disorders. Biomaterials for medical use have also progressed. This allows natural tissue structures to be mimicked by the biomaterials used in surgery to provide biological functions (Suh, 1998).

Drugs are being developed which can exert more precise control over body physiology. This has been achieved by increasing knowledge in three main areas: molecular structure of tissue sites, the organs where diseases present and the drugs themselves (Wasunna and Wyper, 1998).

Medical equipment

Medical equipment is seeing an increased emphasis on safety and user-friendly operations (Wasunna and Wyper, 1998). The development of minimally invasive surgical techniques represents a major breakthrough as it provides the double benefits of reducing patient discomfort as well as reducing bed occupancy. In a detailed review of developments in coronary artery surgery, Loop (1998) highlights the potential for robotic control in minimally invasive surgery to add greater precision, ease of use and safety. Notes of caution have been expressed by Heald and Morgan (1997), who feel the superiority of laparoscopic surgery over open surgery is unproven, even for gall-bladders and appendixes. Writers on healthcare technology voice concerns that their impact will be limited unless resources are available to cover the costs when introducing new technologies. The centrality of ensuring clinicians have both the knowledge and the skills to maximize the impact of the technology is also underlined.

Economic

Cost containment

It has been estimated that in the USA health costs will rise by 3.1% each year until 2007 (Blumenthal, 1999). In France there was a 4–5% increase in expenditure on healthcare between 1991 and 1996 (Durand-Zaleski, Colin, Blum-Boisgard, 1997). Most developed countries are wrestling with the need to keep control of expenditure on healthcare. Current and future contributors to the increasing costs include the implementation of information and communication technology, the high costs of tests and treatments, equipment costs and an older population which makes more demands on health services. In the USA healthcare providers have the strength in the market-place to resist demands for reduced healthcare prices.

The dilemma facing deliverers of healthcare is starkly illustrated when looking at the care for persons with HIV/AIDS (Gallagher, 1999). Such patients will continue to command high-cost care and frequent interventions until treatment is available. There is a need to deliver quality care and, at the same time, contain costs. Achieving both these aims is a major challenge facing health services and various strategies have been developed and tested. For example in France (Durand-Zaleski, Colin, Blum-Boisgard, 1997) there has been a reduction in what have been identified as unnecessary tests and treatments. Mandatory guidelines on procedures and prescribing have been introduced. Doctors not complying with these strategies are open to fines. Other approaches have been to reduce the length of hospital stay for patients. Care programmes could be amended by unpicking the whole healthcare process and re-assembling with cost and quality as the focuses (Theis, 1998).

Evidence based practice

It could be argued that including evidence based practice (EBP) under the 'economics' heading is inappropriate. The need to improve the effectiveness and efficiency of interventions is more important than reducing expensive treatments that have limited outcomes. EBP can influence healthcare

economics as much as clinical care. The concept of EBP is investigated in more depth elsewhere in this book (Chapters 15–19) but it is of sufficient importance to be identified as a major driver.

When the concept of EBP emerged in the last few years it was known as 'evidence based medicine' as it was originally developed by the medical profession. As other health professions have applied the concept 'evidence based practice' has been seen as more appropriate. When looking at literature on the concept of EBP, several authors (Colyer and Kamath, 1999; Gilbert and Logan, 1996; Sandall, 1998) go back to a definition proposed by Sackett in 1996. He says that EBP is the 'conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients . . . evidence based medicine means integrating individual expertise with the best available external evidence from systematic research'.

Some early commentators (Gilbert and Logan, 1996) questioned whether EBP would be a passing fad or be at the centre of future clinical decision-making. Views are now being expressed that the long-term significance of EBP is at last being recognized and acknowledged (Colyer and Kamath, 1999). A pragmatic approach is taken by Green (1998) who sees it as a formal combination of rigorous data and common sense. In recent years a more sophisticated viewpoint has developed whereby merit is not seen in randomized control trials (RCTs), megatrials and meta-analysis per se but in the selection of the appropriate study design for the question (Wennberg & Sackett, 1997).

Some reservations have been expressed about the move to EBP (Goodman, 1999) including criticisms that EBP is the development of a 'cookbook' of clinical guidelines which dictate slavish adherence to particular regimes. It could also be seen as an attempt to erode practitioners' autonomy. The difficulty of applying evidence to practice is apparent in the identification of 'grey zones' of clinical practice (Naylor, 1995). A further criticism is that the continuity of caring and supportive clinical staff is devalued. Whilst general acceptance is emerging that EBP is a significant trend, much work has been done to identify barriers to its integration into practice (Newman et al, 1998; Nolan, 1998; Sandall, 1998). It is significant that nurses and midwives have been foremost in conducting 'barrier' studies. In 30 years of nursing literature it has been acknowledged that research has not been utilized in practice; if EBP is to become widespread the resistances must be overcome. The following barriers have been identified: perceived lack of authority by staff (other than medical staff) to introduce change in patient care, poor quality of published material, circulation of clinical guidelines without an implementation strategy and an unsupportive health service professional and employment structure.

Rationing

Various commentators have observed that rationing has always been present in the UK National Health Service and in other countries (Goodman, 1998; Maxwell, 1995). With the UK NHS 1946 Act it was acknowledged that available resources were finite. Rather than use the pejorative term 'rationing' many countries have preferred to apply 'prioritization' to describe those healthcare demands which are not met when there are insufficient funds (Honigsbaum et

al, 1994).

Two different approaches to rationing have developed. Rationing can take place *implicitly* where the strategy is hidden. Waiting lists are extended and fewer treatments and cheaper drugs are made available. Patients are given information about treatment outcomes that may make them decide against that intervention. The dangers in implicit rationing are that individual clinicians drive the rationing, which will lead to unfairness. The opposite strategy for rationing is where it is *explicit* to both clinician and patient which treatments are available for which illnesses. Goodman (1998) has described how different countries have approached the issue of having implicit or explicit healthcare rationing. She identifies the most widely publicized priority-setting process as happening in the State of Oregon in the USA where services being included in Medicaid (US health insurance scheme) programmes were prioritized.

Rationing healthcare is a very difficult, emotive process. At a political level governments do not wish to be seen to be introducing rationing which will be unpopular and influence voting behaviour. Hunter (1995) has pointed out that health service staff wish to have clear and explicit rationing policies to be laid down from central government which will relieve them from shouldering the blame. The development of a National Institute for Clinical Excellence (NICE) in the UK is a response to this demand with high-cost interventions being closely scrutinized for cost–benefit. All healthcare systems ration care. The issue is not whether but how.

Political

An editorial in the *Medical Journal of Australia* (Swerissen, 1998, 205) outlines concisely and clearly why health is always contested at the centre of politics: ‘Scarce resources must be allocated, in circumstances of imperfect information, for competing and irreconcilable claims made by different groups, and some of these groups may face catastrophic consequences if no action is taken . . . Health programs and services represent only some of many claims for scarce government resources.’ The increasing awareness of the centrality of politics in health is developed and illustrated by Masterson and Maslin-Protheroe (1999) who have produced a book which focuses solely on nursing and politics.

Ideology

Political ideologies are sets of beliefs and ideas that provide the basis for some kind of political action. Simplistically, national healthcare systems are somewhere on a spectrum with, at one end, the tax-financed, integrated state provision ‘Beveridge’ model. At the other end is the ‘Bismarck’ social insurance model in which the insurance funds may be, to a considerable extent, independent from the government (Taylor-Gooby, 1996). The way the British National Health Service has changed over the past 50 years to reflect the ideologies of the different political parties in power is well documented by Denny (1999). The mix between private and public financed healthcare is always contentious. This is nowhere better illustrated than in the largest and most significant country adopting the ‘Bismarck’ model: the USA. It has been

estimated that there are currently 43 million Americans not insured for healthcare (Blumenthal, 1999). In 1994 President Clinton attempted unsuccessfully to introduce health reform based around universal health insurance care. Various commentators (Blumenthal, 1999; Ginzberg, 1998) have seen the defeat of this bill as a critical moment for political ideologies of healthcare. Providers of healthcare have to be prepared to alter their services fundamentally depending upon the ideology of the political party in power.

Collaboration versus competition

In the 'Bismarck' model a driving force can be the introduction of private sector skills and strategies into health where principles of competition underpin funding allocation. Market forces are expected to address such issues as top-heavy bureaucracy and lack of accountability. A feature of the past decade has been the strength of the views advocating either that principles of competition or that principles of collaboration should drive healthcare (East, 1999). In more recent years the voices calling for collaboration appear to be being heard more strongly. In the USA hospital networks are being set up, mergers are taking place between hospitals and academic health institutions are amalgamating (Ginzberg, 1998). Recent evidence for this trend in the UK is provided with the government's proposals that the health and social services should develop joint working (Department of Health, 1998d). Commentators question whether the long-standing organizational, cultural and professional differences between health and social care professionals will make these plans for joint working impossible to achieve (Hiscock and Pearson, 1999; McCurry and White, 1999).

Globalization

Globalization can be understood as the 'process by which human societies are moving from global to international relations' (Lee, 1998, 900). Faster transport systems and information and communication technologies have contributed to health politics functioning at the global level. There is heightened awareness that events in one country can impact on health issues in countries far away (eg the 1986 Chernobyl nuclear accident). With rapid travel, a tourist or business person can be infected abroad with a contagious disease and return before symptoms appear. Prospects of global warming have given further impetus to global health politics. In 1948 the World Health Organization (WHO) was set up to take responsibility for international public health and other health matters. WHO will have to change to meet the challenge of increased globalization. The need for change is acknowledged by Lee (1998), as is the need for careful, informed management of this change.

Conclusion

This chapter has aimed to bring together in a structured way developments in the many areas of life that influence how healthcare is provided. Criticisms of the STEP analysis are that it introduces artificiality and a sense that everything can be compartmentalized. In the real world there is a high level of interconnectivity where different trends influence and dictate to each other.

This is illustrated using the demographic trend of an increased elderly population.

Case study

With more elderly people there will be pressure to develop more sophisticated pharmaceutical treatments to meet their needs. The emphasis on empowerment will support vocal and powerful older consumers of healthcare. The increased health costs resulting from caring for an older population will have to be addressed. With the 'greying' of politics, political parties will have to develop health policies to ensure they have the support of the large number of older voters. Providers of healthcare will be forced to look at rationing even more as the costs increase.

Some of these developments may appear peripheral to the suppliers of health LIS, but they will all impact in varying degrees. The health information worker has to monitor continually this external environment and assess what effect it will have on the service they deliver. There will always be some unpredicted trend or development just over the horizon. The health information workers who survive and thrive will be the ones who can discriminate between significant trends that need urgent action and those that will have minimal impact.

Key points

Healthcare is influenced by many factors. Library and information services have to be informed by the health external environment. Major drivers identified in the STEP analysis are:

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⇒ *Sociological*: the emphasis on self, health inequalities and demography (especially the increase in the numbers of elderly)

Technological: Information and Communications Technology (ICT), biological and pharmaceutical developments and the development of medical equipment *Economic*: cost containment, evidence based practice, rationing

Political: ideology, collaboration versus competition, globalization.