

**THE DEVELOPMENT OF THE HEALTH CARE SYSTEM IN  
MALAYSIA – WITH SPECIAL REFERENCE TO GOVERNMENT  
HEALTH SERVICES  
1970-2000**

**MARY WONG LAI LIN**

*(B.A.(Hons.) UM, LLB (Hons.) London, U.K. & M.A. Manchester, U.K.)*

**A THESIS SUBMITTED FOR THE DEGREE OF DOCTOR OF  
PHILOSOPHY  
DEPARTMENT OF COMMUNITY, OCCUPATIONAL AND FAMILY  
MEDICINE  
NATIONAL UNIVERSITY OF SINGAPORE  
2008**

## Table of contents

	<u>Page</u>
Table of contents	1
Acknowledgements	4
Abbreviations	5
List of tables	7
List of charts	11
Summary	13
<b>Chapter One</b>	
1. Introduction	15
1.1 <i>Research questions</i>	16
1.2 <i>Analytical framework</i>	23
2. Literature review	25
2.1 <i>Health care systems</i>	25
2.2 <i>Health system reform</i>	28
2.3 <i>Health system performance</i>	33
2.4 <i>Health planning</i>	39
2.4.1 <i>Health planning as part of development planning</i>	43
2.4.2 <i>Health plan</i>	47
2.5 <i>Equity and efficiency in the distribution of resources in a health system</i>	48
2.5.1 <i>Equity</i>	49
2.5.2 <i>Efficiency</i>	55
2.6 <i>Health expenditure and allocation of resources</i>	60
3. Scope of the study and data collection	67
<b>Chapter Two</b>	
Description of the Malaysian health system development prior to 1970	
1. Historical background	71
1.1 <i>Development of medical and health services under the British colonial rule</i>	71
1.2 <i>Colonial health policy and development</i>	82
2. Pre-Independence development	87
2.1 <i>Draft Development Plan 1950-1955</i>	89
2.2 <i>International Bank for Reconstruction and Development Mission's report</i>	93
3. Post independence development from 1957-1969	
3.1 <i>First Five Year Plan 1956-1960</i>	95
3.2 <i>Second Five Year Plan 1961-1965</i>	99
3.3 <i>First Malaysia Plan 1966-1970</i>	101
4. Colonial legacy after 1957	103

### **Chapter Three**

Description of the Malaysian health system development from 1970-2000

1. Development and health	110
2. Malaysian health plans and national development plans	112
3. An overview of health plans from the Second Malaysia Plan 1971-1975 to the Eighth Malaysia Plan 2001-2005.	121
3.1 <i>Second Malaysia Plan 1971-1975 (2MP)</i>	121
3.2 <i>Third Malaysia Plan 1976-1980 (3MP)</i>	125
3.3 <i>Fourth Malaysia Plan 1981-1985 (4MP)</i>	128
3.4 <i>Fifth Malaysia Plan 1986-1990 (5MP)</i>	134
3.5 <i>Sixth Malaysia Plan 1991-1995 (6MP)</i>	138
3.6 <i>Seventh Malaysia Plan 1996-2000 (7MP)</i>	142
3.7 <i>Eighth Malaysia Plan 2001-2005 (8MP)</i>	147
4. Brief analysis of the problems faced by the Malaysian health care system	149
5. Conclusion	157

### **Chapter Four**

Issues of Malaysian health care system

1. New Economic Policy, New Development Policy and Vision 2020	164
2. Population and economic status of Malaysia	180
3. Health indices and disease patterns	187
4. Malaysian health care system, financing and reforms	194
5. Conclusion	201

### **Chapter Five**

Analysis of Malaysian government health budget allocation and expenditure

1. Introduction	207
2. Ministry of Health Malaysia budget	212
3. Ministry of Health operating budget allocation and expenditure	219
4. Ministry of Health development budget allocation and expenditure	235
5. Conclusion	240

### **Chapter Six**

Critical analysis of Malaysian health system performance in terms of equity and efficiency

1. Introduction	243
2. Equity and efficiency goals in Malaysian health care system	243
3. Issues of equity and efficiency in Malaysian health care system	
3.1 <i>Health facilities</i>	248
3.2 <i>Human resource</i>	276
3.3 <i>Utilisation</i>	299
4. Conclusion	324

## **Chapter Seven**

### Operation of Malaysian health care system

1. Introduction	326
2. Analysis of Malaysian government health care system	
2.1 <i>Is the health system efficient in the provision of its services?</i>	328
2.2 <i>Three states compared</i>	363
2.3 <i>Is the health system well planned, organized and managed to meet its objectives?</i>	373
3. Conclusion	384

## **Chapter Eight**

1. Conclusion - Reportcard on the Malaysian public health system	387
2. Discussion – Limitation of the system	
2.1 <i>Human resources for health</i>	397
2.2 <i>Planning and policy process</i>	400
2.3 <i>Lack of data and resources</i>	401
3. Recommendations	402

Appendix 1	405
Bibliography	406

## **Acknowledgements**

First and foremost, I would like to thank Almighty God for seeing me through these past five and half years and granting me strength to complete this thesis.

A “big” thank you to my supervisor, Assoc. Prof. Dr. Phua Kai Hong for his invaluable time and guidance throughout the course my study and for being so patient with me.

I would also like to take this opportunity to thank my children, Brien, Jason and Ann for forbearing with me for the long hours I spent on the computer, especially during their school holidays.

Last but not least, I am grateful to my husband, Charlie who supported me financially from time to time.

A special note of appreciation to the Government of Malaysia for the confidence in allowing me to pursue this PhD degree for which I did not apply.

TERIMA KASIH.

## Abbreviations

1MP	-	First Malaysia Plan 1966-1970
2MP	-	Second Malaysia Plan 1971-1975
3MP	-	Third Malaysia Plan 1976-1980
4MP	-	Fourth Malaysia Plan 1981-1985
5MP	-	Fifth Malaysia Plan 1986-1990
6MP	-	Sixth Malaysia Plan 1991-1995
7MP	-	Seventh Malaysia Plan 1996-2000
8MP	-	Eighth Malaysia Plan 2001-2005
9MP	-	Nineth Malaysia Plan 2006-2010
A&E	-	accident and emergency department
AG	-	Accountant General
CT	-	computerized tomography scanner
BOR	-	bed occupancy rate
DEA	-	data envelopment analysis
DOH	-	Department of Health
DPP	-	Draft Development Plan 1950-1956
DPT	-	Diphtheria, Pertussis and Tetanus
EPF	-	Employee's Provident Fund
EPU	-	Economic Planning Unit
FFYP	-	First Five Year Plan 1956-1960
FMS	-	Federated Malay States
GDP	-	gross domestic product
GNP	-	gross national product
HMIS	-	health management information system
HSC	-	health sub-centres
HSFS	-	health services financing scheme
IBRD	-	International Bank for Reconstruction and Development
IDS	-	Information and Documentation System Unit
IJN	-	<i>Institut Jantung Negara</i> (National Heart Institute)
IMF	-	International Monetary Fund
IMR	-	infant mortality rate
IRPA	-	intensification of research on priority areas
IT	-	information technology
MBS	-	modified budgeting system
MCOs	-	managed care organisations
MCQ	-	midwife clinic cum quarters
MHC	-	main health centres
MMR	-	maternal mortality rate
MNHA	-	Malaysia National Health Accounts
MOF	-	Ministry of Finance
MOH	-	Ministry of Health
MRI	-	magnetic resonance imaging scanner
NEP	-	New Economic Policy
NDP	-	New Development Policy
NHFA	-	National Health Financing Authority

NHI	-	national health insurance
NHHES	-	National Household Health Expenditure Survey 1996
NHMSII	-	Second National Health Morbidity Survey 1996
NHSF	-	National Health Security Fund
NIOSH	-	National Institute of Occupational Safety and Health
NMR	-	neo-natal mortality rate
NVP	-	New Vision Policy
OR	-	optional retirement
OPD	-	outpatient department
OPEC	-	Organisation of Petroleum Exporting Countries
OPP1	-	First Outline Perspective Plan 1971-1990
OPP2	-	Second Outline Perspective Plan 1991-2000
OPP3	-	Third Outline Perspective Plan 2001-2010
PPBS	-	planning, programming, budgeting system
PMR	-	peri-natal mortality rate
RC	-	responsibility centre
SFYP	-	Second Five Year Plan 1961-1965
SOCSSO	-	Social Security Organisation
TMR	-	toddler mortality rate
UFMS	-	Unfederated Malay States
WHO	-	World Health Organisation

#### Names of States in Malaysia

S'gor	-	Selangor
N.S.	-	Negeri Sembilan
M'cca	-	Malacca/ <i>Melaka</i>
T'gganu	-	Terengganu
K'tan	-	Kelantan
F.T./W.P.	-	Federal Territory/ <i>Wilayah Persekutuan</i>
K. L.	-	Kuala Lumpur
S'wak	-	Sarawak
P. M'sia	-	Peninsula Malaysia/ <i>West Malaysia</i>
M'sia	-	Malaysia

## List of tables

		<u>Pages</u>
Table 2.1	Public Investment for Social Services 1956-1960	97
Table 2.2	Percentage of Allocation to Total State and Federal Government Expenditure in Malaya, 1950-60	108
Table 3.1	Plan Targets and Actual Expenditure 1950-1960	115
Table 3.2	Allocation for the Social Sector from the Total Expenditure 1950-1960	116
Table 3.3	Summary of 2MP to 8MP	153
Table 3.4	Proposals by the Government of Malaysia by Plan Period	162
Table 4.1	Socio-economic Indices for 1970, 1990 and 2000	168
Table 4.2	Average Annual Growth and Vital Rates, Malaysia 1970-2000	188
Table 4.3	Ten Principal Causes of Death in Government Hospitals in Peninsular Malaysia	193
Table 4.4	Out-of-Pocket Health Expenditure 1996	205
Table 5.1	Allocation to MOH/Trend of MOH Financial Appropriation 1970-2000	213
Table 5.2	Annual Estimates of the Development and Operating Budget of the Ministry of Health 1970-2000	217
Table 5.3	Ministry of Health Development Allocation and Expenditure 1970-2000	218
Table 5.4	MOH Operating Allocation and Expenditure 1970-2000	222
Table 5.5	Additional Supplementary Allocation for Operating Expenses 1988-2000.	224
Table 5.6	Percentage of Programme Allocation to Total Operating Allocation 1970-2000	228
Table 5.7	Percentage of Operating Expenditure over Allocation 1970-2000	232
Table 5.8	Percentage of Annual Change in Operating Expenditure by Programme 1971-2000	233
Table 5.9	Percentage of Programme Allocation to Total Operating Allocation 1974-2000	234
Table 5.10	Percentage of Development & Allocation to Total Allocation for Some Major Programme 1987-2000	238
Table 6.1	Rural Population per Health Care Facilities (Health Centre) Ratio 1980-1994	250
Table 6.1A	Population per Health Care Facilities (Health Centres and Polyclinics) Ratio 1995-2000	250
Table 6.2	Total Number of Rural Health Centre by State 1980-1994	250
Table 6.2A	Total Number of Health Clinics (Health Centre and Polyclinics) by State 1995-2000.	250
Table 6.3	Rural Population per Rural Health Facilities (Rural Clinic) Ratio 1975-2000	251



Table 6.4	Total Number of Rural Clinics by State 1980-2000	255
Table 6.5	Doctor Population Ratio by State 1970-2000	258
Table 6.6	Population per Dental Unit Ratio by State 1984-2000	261
Table 6.7	Total Number of Dental Units by State 1984-2000	261
Table 6.8	Total Number of Dentists in the Public and Private Sector & Population per Dentist Ratio 1985-2000	261
Table 6.9	Total Number of Training Schools and Annual Intake of Health Personnel by Type 1985-2000	264
Table 6.10	Total Number of MOH Hospitals by Category 1970-2000	265
Table 6.11	Total Number of MOH Hospitals by State 1985-2000	266
Table 6.12	Total Number of Acute Hospital Beds by State 1980-2000	266
Table 6.13	Total Number of Acute Hospital Beds per 1000 Population Ratio 1980-2000	267
Table 6.14	Bed Occupancy Rate in MOH Hospitals by State 1985-2000	269
Table 6.15	Total Number of Private Hospitals and Maternity/Nursing Homes by State 1980-2000	270
Table 6.16	Total Number of Private Beds by State 1980-2000	270
Table 6.17	Development Allocation and Expenditure for Certain Categories 1970-2000	272
Table 6.18	Percentage of Population Covered by Safe Water Supply in Rural Areas by State 1985-2000	273
Table 6.19	Percentage of Population Covered by Sanitary Latrines in Rural Areas 1985-2000	273
Table 6.20	Infant Mortality Rate (per 1000 Livebirths) by State 1975-2000	275
Table 6.21	Toddler Mortality Rate (per 1000 Toddler Population) by State 1975-2000	275
Table 6.22	Maternal Mortality Rate (per 100,000 Livebirths) by State 1975-2000	275
Table 6.23	Total Number and Percentage of Medical Practitioners in the Public and Private Sector in Malaysia 1970-2000	277
Table 6.24	Population per MOH Health Manpower Ratio by Category as on 31 <sup>st</sup> December 1998	279
Table 6.25	Total Number and Percentage of Pharmacists Public & Private Mix 1980-2000	280
Table 6.26	Total Number of Pharmacists in the Public and Private Sector & Population per Pharmacists Ratio	281
Table 6.27	Health Manpower by Category, Public & Private Mix and Population per Health Manpower Ratio	281
Table 6.28	Estimated Rural and Urban Population for Malaysia 1970-2000	284
Table 6.29	MOH Training Budget 1970-2000	286
Table 6.30	Total MOH Posts Available and Filled by Groups by Year Ended 31 <sup>st</sup> December 1970-2000	288
Table 6.31	Perks and Incentives Given to Doctors Serving in the Public Sector	291
Table 6.32	Number of Doctors Leaving the Public Sector 1990-1998	292
Table 6.33	MOH Personnel Allocation and Expenditure 1970-2000	296
Table 6.34	Percentage of Personnel by Programme to Total MOH Personnel 1970-2000	297

Table 6.35	Average MOH Costs per Personnel per Year 1984-2000	298
Table 6.36	Total Outpatient Attendances in MOH Hospitals and Public Health Facilities & Total Admissions to MOH Hospitals 1970-2000	300
Table 6.37	Total Number of Outpatient Attendances at Private Hospitals by State 1985-2000	303
Table 6.38	Total Number of Admissions to Private Hospitals and Maternity/ Nursing Homes by State 1985-1996	303
Table 6.39	Total MOH and Private Hospital Beds 1984-2000	304
Table 6.40	Total Number of Private Health Facilities, Admissions and Outpatient Attendances 1984-2000	305
Table 6.41	Total Outpatient Attendances in MOH and Private Hospitals 1989-2000	306
Table 6.42	Government Hospitals Ward Charges and Deposits	308
Table 6.43	Ward and Treatment Charges for Government Hospitals	309
Table 6.44	Comparative Rates of Government and Private Hospitals (RM) – From the CAP Survey	311
Table 6.45	Utilisation Rates of Inpatient Services in MOH Hospitals 1980-2000	312
Table 6.46	Daily Average Number of Outpatients in MOH Hospitals 1980-2000	312
Table 6.47	Daily Average Number of Admissions to MOH Hospitals by State 1980-2000	312
Table 6.48	Mean Length of Stay (in days) in MOH Hospitals by State 1985-2000	314
Table 6.49	Turnover Interval of Days for MOH Hospital Beds by State 1985-2000	314
Table 6.50	Average Operating Cost per Patient for Public Health & Medical/Hospital Patients 1981-2000	315
Table 6.51	Average Capital Cost per Patient for Public Health & Medical/ Hospital Patients 1981-2000	316
Table 6.52	BCG Coverage for Infants by State 1985-2000	318
Table 6.53	Polio Immunization Coverage of Infants (3 <sup>rd</sup> dose) by State 1985-2000	318
Table 6.54	Measles Immunization Coverage of Infants (3 <sup>rd</sup> dose) by State 1990-2000	318
Table 6.55	Immunisation of Infants for Diptheria, Pertussis and Tetanus (3 <sup>rd</sup> dose) by State 1990-2000	319
Table 6.56	Hepatitis B Immunization Coverage of Infants (3 <sup>rd</sup> dose) by State 1990-2000	319
Table 6.57	Percentage of Programme Expenditure to Total MOH Operating Expenditure 1970-2000	322
Table 7.1	Allocation of MOH Operating Budget by Programme 2000	329
Table 7.2	Actual Expenditure of MOH Operating Budget by Programme 2000	331
Table 7.3	Type of Facilities for Outpatient in the Public Health Programme 2000	332
Table 7.4	MOH Development Expenditure 2000	332
Table 7.5	MOH Development Expenditure of the Seventh Malaysia Plan	

	1996-2000	333
Table 7.6	Public Health Programme Outputs for Year 2000	334
Table 7.7	Cost per Patient for Public Health Programme 2000	334
Table 7.8	Actual Expenditure and Percentage to Total for Public Health, Medical and Technical Support Programme 2000	336
Table 7.9	Top Five Incidences of Diseases for 2000	337
Table 7.10	MOH Operating Expenditure Budget, Expenditure, Manpower Strength and Workload by Programme for 2000	347
Table 7.11	Cost per Patient for Medical Care Programme 2000	350
Table 7.12	Comparing Cost per Patient for Public Health and Medical Programme 2000	350
Table 7.13	Cost per Patient by Medical Care Activities 2000	354
Table 7.14	Emolument and Cost per Manpower by Activity 2000	356
Table 7.15	Manpower Supply for MOH for 2000	358
Table 7.16	Population per Public & Private Health Manpower Mix Ratio 2000	360
Table 7.17	Programme Expenditure by Emolument & Supplies and Services 2000	361
Table 7.18	Comparing Three States: Penang, Kelantan and Negeri Sembilan 2000	365
Table 7.19	List of MOH Programmes and Activities	377
Table 7.20	MOH Hierarchical Responsibility Centres	378

### List of charts

Chart 4.1	Mid-year Population Estimates of Malaysia 1970-2000	181
Chart 4.2	Total Population and GNP 1984-2000	181
Chart 4.3	GNP and GNP per Capita 1984-2000	182
Chart 4.4	GNP and National Budget 1983-2000	183
Chart 4.5	Total Population and GNP per Capita 1984-2000	183
Chart 4.6	GNP per Capita and Health Allocation per Capita 1984-2000	184
Chart 4.7	Estimated Population of Malaysia and Health Budget 1970-2000	185
Chart 4.8	Estimated Total, Rural and Urban Population 1983-2000	186
Chart 4.9	Annual Growth Rate and Vital Rates 1970-2000	189
Chart 4.10	Life Expectancy at Birth by Gender in Malaysia 1980-2000	189
Chart 4.11	Average Annual Growth and Vital Rates 1970-2000	190
Chart 5.1	Total MOH Budget to Total National Budget 1970-2000	212
Chart 5.2	Percentage of Health Budget to National Budget and GNP 1975-2000	214
Chart 5.3	GNP and MOH Budget 1975-2000	214
Chart 5.4	Total Health Budget and Health Allocation per Capita 1970-2000	216
Chart 5.5	MOH Operating and Development Budget and Expenditure 1970-2000	216
Chart 5.6	MOH Operating Budget and Expenditure 1970-2000	219
Chart 5.7	Annual Increase of Change in Allocation and Expenditure for MOH Operating Expenses 1970-2000	223
Chart 5.8	MOH Revised Operating Budget and Allocation 1988-2000	223
Chart 5.9	MOH Operating Allocation by Programme 1970-2000	227
Chart 5.10	Percentage of Programme Allocation to Total Operating Allocation 1970-2000	230
Chart 5.11	MOH Development Allocation and Expenditure 1970-2000	235
Chart 5.12	Percentage of Change in Allocation and Expenditure of MOH Development Expenses 1970-2000	237
Chart 5.13	Percentage of Programme Allocation to Total Development Allocation 1987-2000	238
Chart 5.14	Development Allocation for Some Major Programmes 1987-2000	239
Chart 5.15	Development Expenditure for Some Major Programmes 1987-2000	239
Chart 6.1	Rural Population per Rural Health Care Facilities (Health Centre) Ratio 1980-1994 for West Malaysia	252
Chart 6.2	Percentage of Rural Population by State 1970-2000	253
Chart 6.3	Percentage of Urban Population by State 1970-2000	253
Chart 6.4	Rural Population per Rural Clinic Ratio 1975-2000	254
Chart 6.5	Population per Health Care Facilities (Health Centres and Polyclinics) Ratio 1995-2000	257
Chart 6.6	Population per Dental Unit Ratio by State 1984-2000	262
Chart 6.7	Total Number of MOH Acute Beds per 1,000 Population Ratio by State 1983-2000	268
Chart 6.8	MOH Hospitals Bed Occupancy Rate by State 1985-2000	269
Chart 6.9	Infant Mortality Rate by States 1975-2000	275

Chart 6.10	Doctor Population Ratio by State 1970-2000	278
Chart 6.11	Total Number of MOH Midwives and Rural Nurses 1983-2000	294
Chart 6.12	MOH Personnel Allocation and Percentage to Total Operating Budget 1985-2000	296
Chart 6.13	Average MOH costs per manpower per year 1985-2000	298
Chart 6.14	Total Outpatient Attendance for MOH Hospitals and Percentage to Total MOH Outpatient Attendance 1970-2000	300
Chart 6.15	Public Health Facilities Outpatient Attendance and Percentage to Total MOH Outpatient Attendance 1981-2000	301
Chart 6.16	MOH Hospital Outpatient Attendance by Category 1986-2000	302
Chart 6.17	Percentage of Total MOH and Private Hospital Beds, Admissions and Outpatient Attendance 1989-2000	304
Chart 6.18	Operating and Development Cost per Patient for Public Health and Hospital Patients 1981-2000	317
Chart 6.19	Polio Immunization Coverage of Infants (3 <sup>rd</sup> dose) by State 1985-2000	319
Chart 6.20	Measles Immunization Coverage of Infants (3 <sup>rd</sup> dose) by State 1990-2000	319
Chart 6.21	Immunisation of Infants for DPT (3 <sup>rd</sup> dose) 1985-2000	320
Chart 6.22	Hepatitis B Immunization Coverage of Infants (3 <sup>rd</sup> dose) by State 1990-2000	320
Chart 6.23	Percentage of MOH Operating Expenditure for Public Health and Medical Programme 1980-2000	323
Chart 6.24	Operating Expenditure for Public Health and Medical Programme 1970-2000	323
Chart 7.1	MOH Operating Budget and Expenditure for Public Health Programme 2000	330
Chart 7.2	Percentage of MOH Operating Allocation and Expenditure by Programme 2000	340
Chart 7.3	MOH Operating Budget and Expenditure for Medical Programme 2000	341
Chart 7.4	Medical Care Programme Expenditure 2000	341
Chart 7.5	MOH Operating Budget and Expenditure for Technical Support/ Professional Service Management 2000	345
Chart 7.6	Technical Support/Professional Service Management Programme Expenditure 2000	345
Chart 7.7	Cost per Patient for Medical Activity 2000	353
Chart 7.8	Cost per Patient for Cardiothoracic and Radiotherapy 2000	354
Chart 7.9	MOH Public Health Expenditure by Category 2000	360
Chart 7.10	MOH Medical Care Expenditure by Activity 2000	362

## Summary

The development of the Malaysian health system has followed closely the objectives of the national development plans. When the New Economic Policy was introduced to eradicate poverty irrespective of race and to restructure the Malaysian society to eliminate identification of race with economic functions, the health sector became an important contributor. The improved coverage through infrastructure development has reduced social and economic disparities that had existed previously. How much has the Malaysian government health system achieved what was planned? Did the government health expenditure and resource allocation reflect national priorities and interests?

The findings show that the expenditure patterns fitted very well with the national development objectives but fall short on objective economic criteria. The over-emphasis on physical coverage of services has failed to consider new challenges and the relentless pursuit of this goal has contributed to higher costs and compromised allocative and technical efficiency. The relatively lower proportion of expenditure on provision of services and manpower has also accentuated the problem. Consequently, the inefficiencies of the system have contributed to greater inequity in other forms.

The Malaysian health system has not fully achieved allocative efficiency in the distribution of resources and has shortcomings in its performance on technical and cost efficiency, although it has done well in its national distributive objective of equitable access to health resources. From the findings, further development of the health system will not only have to be concerned with equity goals in terms of the new challenges but more

importantly, the efficiency goals in terms of allocation of resources. Future growth and reform of the Malaysian health system will have to address the issue of cost efficiency and cost effectiveness in its performance.

## CHAPTER ONE

### 1. Introduction

The development of the Malaysian health system has followed closely the objectives of the national development plans. The New Economic Policy (NEP) is the first development policy introduced by the government in 1970 after the racial riots in 1969, to promote growth with equity with the objective of fostering national unity among the various racial groups which is the ultimate goal of social development for the nation. The two-pronged strategy was to reduce and eventually eradicate poverty by raising income levels and increasing employment opportunities for all Malaysians, irrespective of race, and the second being to accelerate the process of restructuring Malaysian society to correct the economic imbalances so as to reduce and eventually eliminate the identification of race with economic function. When the NEP was introduced, the health sector became an important contributor.

The New Development Policy (NDP) provides a broader framework for achieving these socio-economic objectives within the context of a rapidly expanding economy, hence setting the pace to enable Malaysia to become a fully developed nation by the year 2020 not only economically but also in all other aspects. Under these two national policies, the government implemented six national development plans from the Second Malaysia Plan (1971-1975) to the Seventh Malaysia Plan (1996-2000). Each of these development plans contains a chapter representing the health sector, which was taken as the health policy for the nation.



Since 1970, the Ministry of Health has placed much emphasis on the improvement and expansion of the rural health services. The purpose for this expansion was to increase the coverage of health services for the population at large and to reduce the imbalances and disparities that existed in the health sector between the rural and the urban population and amongst the different states and regions. Improved coverage of health services as envisaged by the Malaysian government implied that services are to be made available for everyone so that every Malaysian has equal access and entitlement to available care. Provision of public health care was seen as a tool to reduce these imbalances and therefore ensure a policy of fair distribution of health care resources throughout the country where the more deprived geographical areas were supposed to be given greater attention, for example, the poorer states or the rural areas in order that barriers to access to health care, such as poverty, shortage of health facilities and health manpower could be removed.

The purpose of this study is to examine the development of health care policy in Malaysia and to evaluate how much the Malaysian health care system has reflected what was planned. What is considered as priority, urgent and important in the seventies may be very different thirty years later in the year 2000. What were the changing needs then and now will be clearly distinguished through the priorities and objectives laid out in the plans.

### ***1.1 Research questions***

This research will focus on the development of the health care system in Malaysia through the planning framework. This will be an evaluation of the policy planning processes of the Malaysian public health system and the outcome of these processes. The

analysis will primarily be a descriptive study of the development of the public healthcare system in Malaysia over a longitudinal time-series and a comparative analysis for the different time periods from the start of the First Outline Perspective Plan (OPP1) 1971-1990, and the NEP to the Second Outline Perspective Plan (OPP2) 1991-2000, embodying the NDP which covers a period of thirty years. From the historical and time-series studies of all the national development plans and health chapters within the plans, each of the plan period will be critically reviewed against the objectives and targets proposed for each plan.

During the mid-seventies, there were a few studies done by the World Bank on public expenditure in Malaysia. In 1975, the World Bank financed a project to evaluate the characteristics of public expenditure in Malaysia, one of which was to analyse the issues in the cost of the public health sector outputs: the health and medical services of Malaysia, led by Peter S. Heller.<sup>1</sup> The findings showed that the provision of health care in Malaysia benefited the population at large and there was no sign of vigorous targeting to the poor specifically or to any specific groups but rather emphasis was given to expand the rural health system. In 1970, access to health care within 5 kilometres to the nearest health clinic for Peninsular Malaysia was 71 percent whereas for Sabah and Sarawak, only 20 percent and 35 percent of the population respectively. This showed an obvious inequality in terms of access to health care for the East Malaysia population. The Government being fully aware of the problem has channeled a lot of expenditure towards expanding the rural health system to improve coverage to the population and this objective has been the priority of the Ministry of Health Malaysia since then.

---

<sup>1</sup> This was a special cost study where data was collected over a seven week period in Malaysia and it involved visit to six State Medical Departments; 12 general and district hospitals; and to 19 main and sub-health centres throughout Peninsular Malaysia.

Another study which was part of the World Bank research project on the distributive effects of public expenditure in meeting the basic needs in Malaysia,<sup>2</sup> concluded that income as measured by population quintiles was not a strong determinant of the consumption of government health care services. The study also showed that there was a relatively high demand for public health care regardless of income. However, it also showed that rural clinic visits and births assisted by government midwives were negatively associated with income. Yet, at the same time private outpatient visits were positively associated with income. The results indicated that as far as public health care was concerned, generally consumption was high irregardless of income, but on a closer look, public primary health care benefited the lower income rural population whereas the higher income urban population consumed more private health care.

Another interesting finding from the study was that households from the northern states with majority of Malays had the highest frequency of hospitalisation in public hospitals whereas households in Selangor had an extremely low frequency of hospitalisation. This result showed that metropolitan areas and the larger populations did not necessary mean more consumption of public health care. Although in such developed areas there was more availability of public inpatient care, there were equally more availability of private healthcare as well. The finding that the rural areas including small urban towns were above average in consumption in public health care was due to the availability of such services compared to the limited private healthcare in these places.

---

<sup>2</sup> Prepared by Jacob Meerman in 1977 as World Bank Staff Working Paper No.260.

Both the Heller and Meerman studies concluded that the Malaysian government has a high degree of success in providing medical care for all, at zero or near zero cost to the users<sup>3</sup> irrespective of income. But at a closer analysis, the lowest income quintile households seemed to benefit from the highly subsidised health services. However, Heller did not endorse the effectiveness of reaching the most disadvantaged groups and that income was redistributed effectively. This was the scenario in the 1970s during the first decade of the implementation of the NEP. In 1970, almost all the states in Malaysia had a rural population of more than 70 percent except Selangor and Penang. Malaysia was then primarily a typical third world country with the majority of the population in the rural areas.

The World Bank study in 1992,<sup>4</sup> comparing cost and financing among Asian countries, indicated that Malaysia had done well in the health sector although there were some shortfalls in health spending. It achieved good health indicators with a much smaller proportion of spending compared to other countries and Malaysia was considered one of the best performers in the region. Its biggest achievement was the ability to target its public health spending to the poor with its highly subsidized public health care service across all income and mortality groups. This finding somehow contradicts the earlier World Bank study by Meerman and Heller<sup>5</sup> that subsidies provided by the government were distributed equally on a per capita basis and there was no effective targeting for the poor.

The Ministry of Health Malaysia has its own interpretation of equity which means each individual regardless of socio-economic status, age, race, religion or gender, shall be

---

<sup>3</sup> Meerman, 1979, pg. 162.

<sup>4</sup> Griffin C., 1992, pgs. 61-152.

<sup>5</sup> Meerman, 1979, pg. 162.

provided with basic health care of an acceptable standard. The concept of equity in health in the Malaysian context implies that everyone should have a fair and equal opportunity to attain his/her full health potential, and is concerned with creating equal opportunities for health by narrowing health differentials to a minimum. The development of the health services has given priority to equity considerations of access to these services in two important dimensions, namely geographical access and cost access.<sup>6</sup> The aim of this policy of equity in health was not to eliminate all health differences so that everyone had the same level and quality of health but rather to reduce or eliminate those elements which arose from factors which were considered to be both avoidable and unfair. It implied that everyone should have a fair opportunity to attain their full health potential and more pragmatically, that no one should be disadvantaged from achieving this potential. Barraclough calls this a welfare-orientated approach to public health care.<sup>7</sup> The Malaysian interpretation emphasizes equal opportunity to care through equal accessibility, which is narrower than WHO's interpretation which includes fairness in financing.

Since Independence, the health policy in Malaysia has put a lot of emphasis on equity but there was no mention about efficiency as a goal for the public health sector, not until the later five-year development plans. The Ministry of Health of Malaysia's interpretation of efficiency emphasized that the health services are to be effective, appropriate and should result in good outcomes.<sup>8</sup> The concept of efficiency was indicated indirectly in the Fifth Malaysia Plan (1986-1990) (5MP), that all health programmes should take into account the escalating costs of health services amongst other factors to be

---

<sup>6</sup> Policies in Health, MOH, July 1999 pg.13.

<sup>7</sup> Barraclough S., Health Policy, April 1999; 47(1):53-67.

<sup>8</sup> Health in Malaysia – Achievements and Challenges, pg.12.

considered. It was suggested also in the 5MP that a National Health Plan would be worked out which was expected to consolidate health service resources in order to ensure optimum utilisation and cost effectiveness. Whether the equity and the efficiency goals as laid down by the policy makers have been achieved will be examined in this thesis.

Many have acclaimed that the development of the Malaysian health care system is a success story,<sup>9</sup> commendable,<sup>10</sup> or its performance has been very impressive<sup>11</sup> because at minimum cost, it has achieved accessible and equitable health care for the entire population. However, there are some who do not agree with this, among whom is Chee HL who concludes that the accessibility to health care services is neither equitable nor necessarily according to need,<sup>12</sup> especially for the poor people in the urban areas.<sup>13</sup> According to Wee and Jomo, the poor have not enjoyed subsidies comparable to higher income groups as they should, due to high traveling costs and manpower shortages.<sup>14</sup> These contradictions are the subject of the thesis and its aim is not to refute the arguments here but to examine the Malaysian public health system performance from a policy planning perspective.

WHO<sup>15</sup> ranked Malaysia in the 49<sup>th</sup> position in terms of overall health system performance out of 191 member countries. Among the attainment of goals, Malaysia scored its highest at the 33<sup>rd</sup> position for level of responsiveness but scored the worst for

---

<sup>9</sup> Merican MI, Rohaizat Y, Haniza S., *Medical Journal Malaysia*, 2004 March, 59(1):84-93.

<sup>10</sup> Kananatu K. "Healthcare financing in Malaysia." *Asia Pacific Journal of Public Health*, 2002: 14(1):23-8.

<sup>11</sup> Bin Juni MH., *Social Science and Medicine*, 1996 September; 43(5):759-68.

<sup>12</sup> Chee HL., 1990, pg. 89.

<sup>13</sup> Chee HL., 1995, pg.104.

<sup>14</sup> Wee CH, Jomo KS., Workshop on Health Care in Malaysia, 9-11 September 2004.

<sup>15</sup> WHO, 200, pg. 153.

fairness in financial contribution at between 122<sup>nd</sup> and 123<sup>rd</sup> position. The attainment of the rest of the other goals rested in-between these two.

Before a thorough analysis of the development of the Malaysian public health care system can be done, it is important to know where the situation was before and what were the problems in the public health care system that initiated the equity and efficiency goals as mentioned above. Unless it is known where the imbalances lie and what policy makers are trying to correct, it would not be possible to evaluate the performance of the system vis-à-vis the intention of the policy makers.

The basic research question is: how much has the Malaysian government health care system achieved over the period of thirty years with regards to what was planned? The analysis will examine how much of the health policy was dictated by the economic development policy and whether the government is able to match or reconcile the health policy with the overall development policy and vice versa. Any health care policy must have a clear direction and its policies translated into action. Having a document containing a statement of policies does not necessarily mean that the policy agenda will be met.

The next research question is how much does the government health expenditure and resource allocation reflect priorities and interests? The amount of allocation given should ideally correspond with the amount spent to achieve the desired results from what was invested in terms of expenditure. Therefore, the research will critically look at the problems, failures and shortfalls in the implementation of its health policy. The analysis

will be based on applied health economic framework by looking into the issues pertinent to health care from broad principles such as equity and efficiency.

## ***1.2 Analytical Framework***

The analytical framework for the initial part of the thesis will be a review of the historical background prior to 1970 followed by a descriptive study on all the health plans in Malaysia from 1970 until year 2000. The overall approach is a historical approach and a time-series analysis. An overview of the historical background prior to Independence will be provided to give an understanding to the rationale behind the structure of the present healthcare system and why the government has uphold certain policies and priorities very consistently over a considerable period of time.

The later part of the thesis will be the in-depth study of how the health policy is reflected in the allocation of resources through the breakdown of health expenditure. For the purpose of this thesis, the analysis of health expenditure will only be confined to the expenditure incurred by the Ministry of Health of Malaysia, which is the main provider of healthcare for the country. Therefore, this study will focus only on the public health expenditure under the control of the Ministry of Health. According to the Malaysian National Health Accounts, MOH expenditure on health in the public health sector amounts to 86 percent of the government health expenditure and contributes 48 percent to the total expenditure on health in 2002.<sup>16</sup>

---

<sup>16</sup> MNHA, 2006, pgs. 12-13.



The purpose of this detailed public health expenditure analysis is to get a clear picture of the use of financial, physical and manpower resources, identifying allocations to the different states in the country, to urban and rural areas and to the different health programmes. The analysis of health expenditure will be done by categorizing the different components of expenditure by programmes and activities and observing the trend of development through a time-series study. The approach is to collate all the health budgets and expenditures and do simple analyses of variances to analyse what percentage of changes have occurred over the years in terms of allocation, distribution and actual spending.

The government has placed a lot of emphasis on equity both in its national policies as well as sectoral policies like health. The priority given to achieving this objective has moved policy makers to channel a lot of resources towards this end. The question to be answered is how much has equity been achieved in the health care system within the Malaysian context.

From the efficiency perspective, the analysis examine the expenditure trends of how the supply of health facilities, services and manpower have increased over the last few decades and whether the increases are justified in terms of utilization rates and service outputs. For outcome measurements such as macro health indicators, it would be difficult to justify the contribution from the health sector alone, as there are multi-factorial interrelationships with other determinants.

## 2. Literature Review

### 2.1 Health care systems

World Health Organisation (WHO) in its 2000 World Health Report defines health systems as comprising all the organisations, institutions and resources that are devoted to producing health actions which are efforts whether in personal health care, public health services or intersectoral initiatives, where the primary purpose is to improve health.<sup>17</sup> Health systems are often shaped by health policies implemented in a particular country. They come in many forms: they may be integrated and centrally directed or otherwise. According to Roemer, a health system is the combination of resources, organisation, financing and management that culminate in the delivery of health services to the population.<sup>18</sup> Most national health systems do show varying degrees of complexity and coherence. No two health systems are alike as health systems are always changing and evolving whether in its structural form or in its organisation.

Field<sup>19</sup> defines a health system as a societal mechanism which transforms generalised resources or inputs into specialised outputs in the form of health services aimed at the health problems of the society. According to Alan Dever<sup>20</sup> medical care systems are one element, or sub-system within society which seeks to ensure the health of society's members. This sub-system interacts with other sub-systems in carrying out society's goals.

---

<sup>17</sup> WHO, 2000, pg. ix.

<sup>18</sup> Roemer, 1991, pg. 31.

<sup>19</sup> Ellengweig, 1992, pgs. 6-7.

<sup>20</sup> *ibid.*, pgs. 6-7.

In planning for the health system, the interactions both within the system and with other systems cannot be ignored.

Whether the health system is perceived as a combination of various health resources to improve the health of the population as in the first two definitions or in the societal view as a social mechanism to deliver health services to the society as in the later two definitions, health systems are seen as a complex interaction of multiple variables to produce health or to meet healthcare needs. There are many ways of looking at health systems, although how they are managed will deliver different results. According to Roemer, every health system has components which are definite although the characteristics of each component may vary greatly, and the structure and operations of health systems are always changing. Therefore, in order to appropriately evaluate any health system, it must have boundaries set by well-defined objectives to which the system is orientated to achieve.

There are many approaches in the analysis of health systems. The question raised is that since health systems are constantly changing or going through some kind of reforms, should the system be identified with certain components and attributes? Roemer identifies three major attributes that determine how the systems have evolved: political, economical and cultural characteristics. Politics can influence the health system directly through formulation of health policies or indirectly through its impact on the health system. The level of economic development of a country can also greatly influence the health system because the nation's wealth determines how much resources are put into the system. The cultural determinants are the various social institutions and the custom of the society,

technological development, religion, community structure, language and the family.<sup>21</sup> Values and beliefs governing a society can greatly affect the development of the health system and these are attributes that vary substantially amongst different countries.

Roemer then classifies health systems by scaling and ranking the systems based on economical and political dimensions. The cultural dimension is discussed whenever relevant to the understanding of the health system. From the economical dimension four levels are identified: the affluent, the transitional, the very poor, and the resource rich and from the political dimension, four policy types are identified: entrepreneurial, welfare-oriented, comprehensive and socialist, out of these two dimensions form a matrix of 16 types of national health systems.<sup>22</sup> This model is an improvement from his earlier models. There are some constructed weaknesses in this model in that it does not take into consideration the dynamics of a constantly changing system in longitudinal terms. Some health systems may be a combination of the categories given above. Within the political and economical dimensions there are also changes that can bring a significant change to the system within a certain time frame.

Phua classifies health systems by categorising them according to the level of development of their respective economies: developed, high performing, newly industrialising, transitional and developing.<sup>23</sup> He generalises these health systems at different stages of socio-economic development of individual countries by a typology of common issues, challenges and responses. His classification allows for longitudinal

---

<sup>21</sup> Ellengweig, 1992, pgs. 16-21.

<sup>22</sup> Roemer, 1991, pg. 97.

<sup>23</sup> Phua KH, Chew AH, Asia Pacific Journal of Public Health, 2002: 14(1):9-16.

development and evaluation in terms of efficiency, equity, quality and sustainability. However, judging from an economic status standpoint, it is not sufficient as policy makers do not always make decisions based on the economic condition of the country alone, but other factors such as the political climate, cultural and societal values are also considered. Phua's classification is quite similar to the World Bank's classification of countries by income or the gross national product (GNP) per capita<sup>24</sup>, for example, Malaysia is classified an upper middle income country. A recent World Bank publication categorised health financing system into those of high-income, middle-income and low-income countries, and offered policy options for reforms that fit their needs and contexts.<sup>25</sup>

## ***2.2 Health system reform***

Every country has some form of a health system and many of these systems are experiencing various stages of reform. In any health system, the main function is to provide or deliver health services for its population. The questions lie in whether the health services provided are beneficial, effective and affordable for the population concerned. Policy makers and providers are required to make right decisions and choices pertaining to the functioning of the system such as what services to provide; what skills and training are required for its personnel; what arrangements are to be made among the parties or levels of providers; which target groups to be given priority; what proportion of the allocation are for the services provided; how to organize the provision in the most efficient way; what sort of incentives should be given for the providers; and the list goes on. Organizing a health

---

<sup>24</sup> World Bank, 1993, pgs. x-xi.

<sup>25</sup> Gottlieb and Schieber G, Health Financing Revisited, World Bank, 2006.

system is very complex and the right balance is important for the system to function and deliver its services that will give the most impact to the population at large. Any changes or improvements made whether organizational or structural in the delivery of services, financing and distribution of resources is reforming the health system. Health care reform has been described as a 'global epidemic' and all health care reforms consist of very complex policy choices.<sup>26</sup> In a more macro perspective, the reason for reform in the health sector could be due to market failure and there is a need for government intervention.<sup>27</sup>

The World Bank in 1987 led a global health reform when it released a publication entitled "Financing Health Services in Developing Countries: An Agenda for Reform" which proposed four changes: imposing user fees at government facilities; introducing social insurance or other risk coverage systems; using non-governmental resources more effectively; and decentralizing planning, budgeting and purchasing of government health services. The intention of this reform is to shift government expenditures to cater for the poor and reduce subsidies for the rich, thus increasing the role of the market in the health sector. Following this publication, in 1993, the Bank came out with another document entitled "World Development Report: Investing in Health"<sup>28</sup> which outlined a more comprehensive agenda for health reform with a three pronged approach which is: fostering an economic environment to enable households to improve their own health; redirecting government spending from specialised care towards cost-effective programs; and

---

<sup>26</sup> Maynard A & Bloor K., International Journal of Health Planning and Management, 1995 Oct-Dec; 10(4):247-64

<sup>27</sup> Murray CJL., Health Policy, April-June 1995; 32(1-3):93-109.

<sup>28</sup> World Bank, 1993, pgs. 3-6.

promoting greater diversity and competition in the health financing and delivery of health services.

The World Bank approaches health system reform from a macro perspective although the policy context or the factors affecting the health system is similar. The World Bank focuses on the pursuit of macroeconomic policies that emphasize reduction of poverty. Their policy process is looking at the health systems and their problems and tackling them accordingly within the confines of the country's economic status and income which is determined by what the government is able and willing to spend on health care. The few main problems identified are misallocation, inequity, efficiency and exploding costs. The World Bank recommends that government should only finance public health measures and a nationally defined package of essential health services.<sup>29</sup> The remaining clinical services are discretionary and should be financed privately or by social insurance. The World Bank proposal is for a two-tiered system: one for the poor and the other for the rich; and suggested that epidemiological and economic analysis should form the basis for a global priority setting.

However, the World Bank's proposal received criticisms on the analyses that are used in setting priorities and health interventions<sup>30 31</sup> which may not be suitable for all countries. Factors such as historical and political background of health services are not considered, for example, not all governments would want to introduce new financing

---

<sup>29</sup> The World Bank estimates the minimum package would need about one physician per 10,000 population between two and four nurses per physician and one district hospital bed per 1000 population.

<sup>30</sup> Musgrove P., Health Policy and Planning, March 2000; 15(1):110-5.

<sup>31</sup> Paalman M et. al., Health Policy and Planning, March 1998; 13(1):13-31.

schemes or competition into their health system as it can be very contentious and politically sensitive to the population. An alternative approach to the World Bank's essential package is a comprehensive package of health care services which is to identify the injustices in the current health care system and then go on to make the necessary modifications in the system to achieve that change. The policy process created must ensure acceptable decisions are made.<sup>32</sup> This comprehensive package suggests a more realistic and acceptable approach. According to Chernichovsky, private and competitive provision of care may be unrealistic in many developing areas because of scarcity of real resources, mainly manpower and health needs. He suggests that developing countries strengthen what is probably the most fundamental initial systemic asset they have: public finance.<sup>33</sup> This is true as most developing countries have health care systems that are tax-financed and they may not be unsustainable both now and in the future. Some tax-based systems work well as in the case of Hong Kong. According to Yuen, the way forward is to fine-tune the existing system rather than to replace it with other systems which are known to have higher transaction costs and more serious supply side moral hazards.<sup>34</sup>

According to Berman, the essence of reform is 'sustained, purposeful change to improve the efficiency, equity and effectiveness of the health sector'.<sup>35</sup> His definition of reform implies sustained, purposeful and fundamental changes in the health sector and health sector reform should be based on a holistic view of the health sector.<sup>36</sup> Who is in the best position to manage this change other than the government? The role of the

---

<sup>32</sup> Jayasinghe KSA, De Silva D, Mendis N, Lie RK., Social Science & Medicine, November 1998; 47(10):1619-25.

<sup>33</sup> Chernichovsky D., Health Policy, April-June 1995; 32(1-3):79-91.

<sup>34</sup> Yuen PP., International Journal of Health Planning and Management, 1999 Jan-Mar; 14(1):3-18.

<sup>35</sup> Berman P., Paper presented at the Conference on "Health Sector Reform in Developing Countries: Issues for the 1990s." Durham, New Hampshire, September 10-13, 1993.

<sup>36</sup> Berman P., Health Policy, April-June 1995; 32(1-3):13-28.



government is important not only to ensure that the health systems operate at its optimal level for greater efficiency but also ensure accessibility and quality of health services to its population. Studies have shown that emphasis on outcomes rather than process have not supported sustainable reforms or achieved the government's goal of improving health and ensuring equity for the citizens of the country and there is a need to identify the most critical processes, build and manage these processes in a systematic way and to monitor and evaluate the results.<sup>37</sup> Governments need to have the organisational and institutional capacity to undertake these policy processes.<sup>38</sup> <sup>39</sup> Besides building capacity to implement change a rational policy development should explicitly consider multiple goals for the health sector.<sup>40</sup>

Policies and strategies are changing to meet these new demands, some systems are more successful than others, many are learning from someone else's failures or experiences. Whatever the reform is health systems are expected to perform and to contribute to the better health of the population. There is no universal system for all, neither is there a perfect system. According to Collin et al, it is important to understand the policy context which may come in so many perspectives such as: demographic and epidemiological changes; processes of social and economic change; economic and financial policies; politics and the political regimes; ideologies; public policies and the public sector; and external factors. These policy contexts are linked with an overall understanding of the

---

<sup>37</sup> Oyaya CO, Rifkin SB., Health Policy; 64 (2003):113-127.

<sup>38</sup> ibid.

<sup>39</sup> Olsen IT., Health Policy Planning; 13(3):287-95.

<sup>40</sup> Hammer JS & Berman P., Health Policy, April-June 1995; 32(1-3):29-45.

policy process. While governments are facing major problems in policy-making for health sector reforms, the main problem lies with the lack of internal policy making capacity.<sup>41</sup>

### ***2.3 Health system performance***

According to Kawabata,<sup>42</sup> health systems in all countries, no matter how wealthy or poor can improve their performance. What is important is to identify internal and external factors that are responsible for its merits and shortcomings, in order to improve performance. Each system is judged according to the resources at its disposal. Besides resources, health systems are also judged by health outcomes in relation to inputs but such assessment does not tell much about its achievements in relation to its potential or what is expected out of the system. According to World Health Organisation (WHO), comparing actual attainment with potential shows how far from its own frontier of maximum performance is each country's health system.<sup>43</sup> Health systems that can achieve more with the same resources are said to have made improvements in performance. In economic terms, performance is a measure of efficiency. How well a health system achieves the desired outcomes given available resources is the efficiency of the health system.

WHO being a global body of which members come from the 191 different countries, has come out with a common conceptual framework for health systems performance assessment. WHO presented new concepts and measures which lay the empirical basis for assessing and comparing national health systems. The result was the

---

<sup>41</sup> Collins C, Green A, Hunter D., *Health Policy*, April 1999; 47(1):69-83.

<sup>42</sup> Kawabata K, *Bulletin of the World Health Organisation*, 2000; 78(6):716.

<sup>43</sup> WHO, 2000, pg. 41.

World Health Report 2000 which reported for the first time an index of national health systems' performance for achieving three overall goals which are: good health, responsiveness to the expectations of the population and fairness in financial contribution. The achievement of these goals are evaluated based on four key functions identified by WHO namely: providing services; generating the human and physical resources that make the delivery possible; raising and pooling of resources used to pay for health care; and stewardship. WHO assesses each health system by ranking them based on the attainment of goals and performance in the measure of disability-adjusted life expectancy, health equality in terms of child survival, responsiveness level, responsiveness in distribution, fairness of financial distribution, performance on level of health and finally the overall health system performance which is the composite measure of achievement of the other measures.

WHO's approach was very different from the World Bank's reform agenda which assumed that economic growth was a condition for good health and vice versa and that the private sector was in a better position than the government in the financing and provision of health care whereas WHO focused on goals attainment and performance of the system whether private or public driven. An assessment of the capacity and the performance of a health system was a necessary precondition for any reform in the system. WHO provided an initial platform for that option which would need further refinement over time.

There were a lot of debates and criticisms to the WHO's method of deriving the rankings and the framework used for assessing the performance of the 191 health systems of member countries. One of the major criticisms of WHO performance measurement was

that the indices of composite goal attainment and performance were based on imputations, extrapolation from other countries and many figures were mere estimates which do not represent the real data and therefore these data were seriously flawed,<sup>44 45 46 47 48</sup> and unrelated to the actual problem faced by the health system. Governments, expert views or scientific scrutiny and the perception of the citizens of the countries concerned were neither consulted nor considered.<sup>49 50 51</sup> The WHO panel data set also failed to consider the wide variation in cultural, historical, ideological and economic characteristics of such a worldwide sample, thus, a large amount of unmeasured heterogeneity in the data and the complexity of health systems policies which differed widely in different countries as shown in the weak evidence.<sup>52 53 54</sup> Imposing the same objective and weights for equity of finance, efficiency scores and putting them into a single index also showed that the rankings were faulty and problematic.<sup>55 56</sup>

Other criticisms include its biasness towards medical care and not public health measures; the advances of high technology was not adequately captured; not enough effort to distinguish between efficiency and equity goals; heavily relied on life expectancy which can be rather misleading; not sensitive to the need of public funded health care systems;

---

<sup>44</sup> Musgrove P, *The Lancet*, 2003; 361:1817-20.

<sup>45</sup> Nord E, *Health Policy*, 2000 March; 59(3):183-91.

<sup>46</sup> Brown P., *British Medical Journal*, 2002; 324:190.

<sup>47</sup> McKee M., *British Medical Journal*, 2001 August 11; 323(7308):295-296.

<sup>48</sup> Shaw RP., *International Journal of Health Services*, 2002; 32(1):195-203.

<sup>49</sup> Musgrove P, *The Lancet*, 2003; 361:1817-20.

<sup>50</sup> Blendon RJ, Kim M, Benson JM., *Health Affairs (Millwood)*, 2001 May- June; 20(3):10-20.

<sup>51</sup> Navarro V., *International Journal of Health Service*, 2001; 31(1):23-33.

<sup>52</sup> Greene W., *Health Economic*, 2004 Oct; 13(10):959-80.

<sup>53</sup> Feachem RGA., *Bulletin of the World Health Organisation*, 2000; 78(6):715.

<sup>54</sup> Nord E., *Health Policy*, 2000 March; 59(3):183-91.

<sup>55</sup> Richardson J, Wildman J, Robertson IK., *Health Economics*, 2003 May; 12(5):355-66.

<sup>56</sup> Gravelle H, et al, *Applied Health Economics and Health Policy*, 2003; 2(3):141-7.

and bias towards competition and privatization to improve efficiency.<sup>57 58</sup> In the author's view, the components for measurements were limited for assessing national level health systems performance. Although there were goals such as the attainment of the level of health, responsiveness and fairness in financial contribution, the components for these measures may contribute only a proportion for the attainment of goals stated but there were other components which were not considered that can equally contribute to the performance of the health system such as equity and efficient distribution of health resources. Some of components measured such as level of responsiveness and distribution of responsiveness are culture-specific, for example, autonomy or dignity respected compared to dependency and family values. Some countries especially the developing or third world countries may not attach the same level of importance to these components as in the developed countries. Quality of care has been put under this measurement but quality of care includes a multivariate of factors. Adequate supply and the right mix of health manpower and its distribution were also not covered here.

The goal of improving health for all was also very general and population expectation can differ from one culture to another. Fairness in financial contribution primarily examined the financial contribution of the household to the financing of the health system, which is purely based on what the population could afford. What is fair financial contribution really depends on the type of financing system in the health sector. How much the household contributes may not accurately be measured by this component. Some countries are rooted in welfarism whereas others may prefer more cost-sharing and

---

<sup>57</sup> Navarro V., American Journal of Public Health, January 2002; 92(1):31, 33-34.

<sup>58</sup> Coyne JS, Hilsenrath P., American Journal of Public Health, January 2002; 92(1):30, 32-3.

risk-pooling. Comparing such measures among member countries with different financing schemes does not give a fair and just measurement.

Performance is a relative concept and health systems are never held accountable for past mistakes, or given credit for past success<sup>59</sup> unless they are assessed with a longer time horizon to include what has been achieved over many years. There is still a choice which policy makers of the different countries have to make and this choice should be measured against individually set goals and not universally arranged goals. There should not be standardised advice to all countries.<sup>60</sup> Each society makes its own choices and the country concerned has its own policy choices which seemed the best, given the constraints the health system is facing. Therefore, developing a categorisation or measures of key factors that will affect the health systems must be thoroughly debated and accepted by all stakeholders concerned.

When assessing which of the key functions in the health system that seems to have fallen short of their potential, the questions often lie with the planning, management and the operation of the health system. Many health systems have fallen short of its potential due to the lack of an appropriate and a balanced mix of resources, poorly structured, poorly organized and poorly managed systems, besides the usual inadequate funding. Today many health systems have undergone much reform and are experiencing continuous change to deal with the ever-changing health care needs, demands and expectations which could be partly driven by economic, political, technological and simply ideological forces.

---

<sup>59</sup> Murray CJL, Frenk J., Bulletin of the World Health Organisation, 2000; 78(6):717-28.

<sup>60</sup> Feachem RGA., Bulletin of the World Health Organisation, 2000; 78(6):715.

Therefore, the criteria presented by WHO are not exhaustive as many other factors can equally influence the system besides the three goals mentioned. Even common goals may be interpreted differently for various reasons and have to be defined properly, incorporating the heterogeneity of the countries. Factors such as the local environment, values and culture and the historical, political, cultural and socioeconomic context which have over a long period of time moulded the health system the way it is, cannot be ignored. Past development efforts and the current conditions will have to be examined thoroughly before any comparison and ranking of different countries can be made.

Despite the criticisms that have been brought forth, the World Health Report 2000 has succeeded in stimulating governments to be more aware and accountable to their health systems. Policy makers, civil society and the research community are beginning to seriously consider measurements of performance and focus more on the achievements of health systems. Since the 2000 report, the WHO has initiated a series of technical and regional consultations involving scientists and policy makers, and the establishment of the scientific peer review group overseen by an external advisory group that has shown transparency, objectiveness and thoroughness of the WHO to bring health system performance to the attention of policy makers.<sup>61</sup> What is really needed by the countries concerned is not just comparing each other's health systems performance assessment but also to monitor the status of health goals in relation to resources spent.<sup>62</sup> What policy makers are looking for is the practical guidance on how they can reform their health

---

<sup>61</sup> Brundtland GH, Frenk J, Murray CJL., The Lancet, 21 June 2003; 361:9375.

<sup>62</sup> Wibulpolprasert S, Tangcharoensathien V., Bulletin of the World Health Organisation, 2001; 79(6):489.

systems so that they will perform better.<sup>63</sup> The countries concerned can then use this platform to share their experiences with each other and improve on their own goals, measurements and performance. The initiative taken by WHO to gather together member countries to debate and review on the methodology of assessment both at the conceptual and operational level, was a good start for the improvement of health systems performance.

#### ***2.4 Health planning***

Limited public resources, priority-setting and critical choices to be made have made planning an important tool to health system development. Health planning is no different from any other planning as far as concept is concerned but the details involved in health planning can be far more complex. Planning is also one of the elements in policy analysis.<sup>64</sup>

There are a number of descriptions as to what planning is all about. According to Mills and Lee, planning has to do with the process of deciding how the future should be different from the present, what changes are necessary, and how these changes are brought about.<sup>65</sup> Green defines planning as an explicit activity that attempts to determine how resources are used in relation to the specific goals of an organization.<sup>66</sup> According to Reinke, the core of planning is the analysis of alternative means of achieving established goals ranked in order of priority in the face of constraints.<sup>67</sup> Barker defines planning as

---

<sup>63</sup> Kawabata K., *Bulletin of the World Health Organisation*, 2000; 78(6):716.

<sup>64</sup> Walt G, Gilson L., *Health Policy and Planning*, December 1994; 9(4):353-70.

<sup>65</sup> Mills and Lee, 1982, pg. 30.

<sup>66</sup> Green, 1994, pg. 23.

<sup>67</sup> Sorkin, 1976, pg. 79.



about essentially developing strategies to make policies happen in practice, and about what is needed to operationalise these strategies.<sup>68</sup> According to Abel-Smith, health planning is needed to prevent waste, make full use of scarce resources, contain costs to what is affordable and see that they are distributed geographically on an equitable basis, which in many countries is a rationing process.<sup>69</sup>

The description given by Mills and Lee explains that planning is a means to an end, a rather simplistic view which is quite similar to Reinke's and Barker's definitions. Green and Abel Smith's definitions are stronger in that planning is more than just a simple process from now to then but there are explicit objectives and activities in the planning process itself that require some resolute determination and purposefulness. From the descriptions and definitions given above, one cannot deny that planning is essential to ensure that a desired objective or future becomes a reality. Planning is ultimately concerned about making decisions about what needs to be done in order to achieve certain goals whether specific or general within a certain time frame. These decisions are usually expressed in terms of allocation of resources through the budgeting process. This means putting plans into practice through choices in allocation, counting the cost, avoiding wastage and making the optimum use of the resources available as well as sourcing for additional resources if necessary to meet the goals. Planning is what makes policies happen in reality and the planning process may also help develop and refine policies.

---

<sup>68</sup> Barker, 1996, pg. 27.

<sup>69</sup> Abel Smith, 1994, pg.79.

There is a number of health planning models and methodologies or approaches to health planning. Green<sup>70</sup> proposed three models of planning: comprehensive rationalism, mixed scanning and incrementalism and each of these models has its own approaches to planning which represent the more contemporary method of planning and allow for flexibility and adaptability to the complex environment of the health system. The more conventional methods of planning are those proposed by Taylor<sup>71</sup> (eight progressive stages of planning); Abel Smith<sup>72</sup> (six essential steps for planning); WHO Guiding Principles on Managerial Process for National Health Development<sup>73</sup> (nine components in planning); Popov<sup>74</sup> (listing of procedures in drawing up health plans); and Reinke<sup>75</sup> (gives an overview to health planning through a schematic framework).

So far these planning models mentioned above are either based on a straightforward linear process approach, which is, from here to there or from now to a certain future based on agreed goals or objectives to be achieved. There are also models that depart from this approach such as the health service location-allocation model<sup>76 77</sup> which provides a framework for evaluating service accessibility under different location options, helping to generate more efficient geographical distributions. Such an approach captures information like traveling time and distances, modes of transport, effects of changing location, opening and closing providers and so on. The consequence of new distributions and organisational capacity are areas which are often shunned by most conventional planners but in this

---

<sup>70</sup> Green, 1994, pgs. 22-24.

<sup>71</sup> Sorkin, 1976 pgs. 83-86.

<sup>72</sup> Abel Smith, 1994, pg. 47.

<sup>73</sup> WHO, 1981, pgs. 5-7.

<sup>74</sup> Popov, 1971, pgs. 22-23.

<sup>75</sup> Reinke W (Ed.), 1988, pgs. 67-68.

<sup>76</sup> Harper PR, Shahani AK, Gallagher JE & Bowie C., *Omega*, April 2005; 33(2):141-52.

<sup>77</sup> Kumar N., *Social Science and Medicine*, 2000 May; 58(10):2045-67.

geographical model they are readily examined. A study done by Noorali et al, reveals that besides distance, there are other determinants of the use of existing facilities that need be assessed before building more health facilities. These factors include clients' perception and experience with the use of the facilities, the attitude and behaviour of providers towards patient, clients' convenience and so on.<sup>78</sup> Another planning approach is the logical framework which is designed to facilitate comprehensive and detailed planning for tangible and measurable outcomes, consisting of a 16-box grid.<sup>79</sup> Thunhurst and Barker have developed the problem structuring methods in planning for countries where quantitative data is scarce.<sup>80</sup>

The literature review above shows that the recent trend in the planning approach is one that is comprehensive, pragmatic and specific to goals. A successful planning process is one that will achieve the change it has planned to do. There is no point planning if change is not realised and the results are not shown. The two important instruments in planning are resource allocation and the budgeting process because eventually what is planned has to be put into action and without the finance and the budget allocation to support it, nothing works. Therefore, a proper and pragmatic planning framework is necessary so that all objectives are properly stated, variables and potential alternatives are considered and the final output quantified. Having understood the requirement of planning in health the next question to be asked was that how does health planning fit into development planning or vice versa.

---

<sup>78</sup> Noorali R, Luby S, Hossein Rahbar M., Health Policy and Planning; 14(2):191-97.

<sup>79</sup> Nancholas S., Health Policy and Planning; 13(2):189-93.

<sup>80</sup> Thunhurst C, Barker C., Health Policy and Planning, June 1999; 14(2):127-34.

### ***2.4.1 Health planning as part of development planning***

According to Mach and Abel Smith<sup>81</sup>, any plan for health services must be part of a wider health policy, and the latter must be a plan for integrated development. A health input is critical to any plan for economic development. According to Berman, health is increasingly included as an important goal of national development. It can make development more sustainable.<sup>82</sup>

Ham and Hill<sup>83</sup> distinguish the different levels at which policies may be analysed within the whole political system; the micro level which looks at decision making within a particular organization; the middle-range analysis of policy formulation; and the macro analysis of political systems, including the role of the state. Health planners generally do not see health as a sector independent on its own but as a necessary important component and factor to the overall development objectives of the country. Although national plans may seem to be broad based, it gives the various sectors and departments a sense of direction.

According to Popov, there is an increased interest of governments in planning for economic and social development as a whole, as a means of achieving the systematic organization and rational deployment of national economic and manpower resources in an orderly and efficient development.<sup>84</sup> From a study done by Wheeler<sup>85</sup>, macro planners are

---

<sup>81</sup> Mach and Abel Smith, 1983, pg. 14.

<sup>82</sup> Berman P., *Health Policy*, April-June 1995; 32(1-3):13-28.

<sup>83</sup> Barker, 1996, pg. 35.

<sup>84</sup> Popov, 1971, pg. 11.

<sup>85</sup> Wheeler, 1983, pgs. 198-201.

more ready to acknowledge the contribution of health services to meeting distributional objectives and to direct satisfaction of welfare needs. On a wider basis it is an indirect means to reduce poverty level. In most development plans, improvement of health care to the rural population is a means to correct imbalances among the different socio-economic groups. According to Wallis, there is now an alternative approach to development planning which is geared to poverty alleviation which includes dimensions such as technical effectiveness, participation (including private sector involvement and community action) and institutional capacity building.<sup>86</sup>

Historically, after the Second World War many countries in Asia, Africa and Latin America started producing their own development plans. Many of these countries were also seeking independence from their colonial masters after the war and each of them was ambitious to draw up some plans of development for their own country which they had to convince the colonial masters in one way or other that they were able to govern and manage the development of the economy independently. Development plans provide detailed explanations on the problems, the strategies to be taken, the priorities emphasised and the future prospects of the country economically and socially.

However, there is no standard blue print for development plans that will apply to all problems and situations for all the countries. They differ very much in structure, contents and purpose. According to Lewis, a development plan may contain any or all of the following parts: a survey of current economic conditions; a list of proposed public expenditures; a discussion of likely developments in the private sector; a macroeconomic

---

<sup>86</sup> Wallis M., *Public Administration and Development*; 20(2):129-139.

projection of the economy; and a review of government policies.<sup>87</sup> Todaro describes development planning as a deliberate governmental attempt to coordinate economic decision making over the long run and to influence, direct, and in some cases even control the level of growth of a nation's principal economic variable in order to achieve a predetermined set of development objectives.<sup>88</sup>

Development plans are always built on experiences of the earlier plans. Therefore, the first drawn plan will always lead the way for future plans. The plan normally begins by reviewing progress achieved in the last plan published and in certain cases recent years prior to the plan will also be incorporated. Most of these plans contain discussions on patterns and changes in population, national output, income, investment, saving, consumption, employment, government expenditure, taxation, the balance of payments, exports and imports, and performance of each of the major industries. This information gives the overall background scenario to the economic and social situation of the country and they help to identify problems which need to be selected for further attention.

A development plan does not authorise anything. Although it is not legally binding for the government to fulfill what is written, with the accurate reporting of its expenditure and how much is being used for the different sectors, the plan serves as a good indicator to gauge the performance of the government through its expenditure. For the plan to be an effective document it must have fairly reliable statistics and not invented figures, otherwise the whole process of planning and implementation would be pointless. Due to the non-

---

<sup>87</sup> Lewis, 1966, pg. 13.

<sup>88</sup> Todaro, 1985, pg. 464.

binding nature of the plan, there will be cases where there is a tendency to use grossly inflated figures but on the other hand, due to its non-committal nature, it helps to ride through changing circumstances or uncertain contingencies. According to Lewis, development planning is only in part an economic art; to an important extent it is also an exercise in political compromise.<sup>89</sup> The development plan seeks to compare the past and present in order to search for guidelines for the future. Lessons can be learned from the past and through a time-series study, the projection then becomes more reliable and more adaptable to the current environment.

Increasingly, when it comes to public expenditure, health being a component of social services has always been considered as a consumption good producing services rather than commodities which will bring in revenue. Much of this prejudice has changed over the years and most countries prefer a balanced growth in proportion to the demands. There is now an awareness to increase investment in health as an essential input to policy formulation. Health is valued as an intrinsic goal with powerful evidence about its instrumental value in furthering economic growth.<sup>90</sup> Once an economic value is put on to the output of health investment, there will be a need to calculate the economic return on medical expenditure. Health care is not only a merit good but it has externalities which are not dictated by purely economic terms.

When it comes to allocating health resources, the budget can bear the cost of public health measures quite easily when the economy is growing but when the economy is

---

<sup>89</sup> Lewis, 1966, pg. 26.

<sup>90</sup> Frenk J, Knaul F., Bulletin of the World Health Organisation, 2002; 80(2):88.

contracting, health care costs especially the high hospital costs can be very strained on the public purse. Furthermore, technological advancement is opening up more clinical and diagnostic alternatives which are making health care more expensive. While the drug companies and medical equipment companies are flourishing, the governments are struggling to find alternative means of cost containment. Although most development planners can easily justify expenditure on health as an investment in society because it improves health status and create a healthier and productive society, some governments see it as just expenditure and viewed it differently, thus, minimising the expenditure to only what is necessary.

#### ***2.4.2 Health plan***

Health plans are normally part of the national development plans and they follow the duration of the development plan which can be five- or ten-year plans and they show the total sum to be spent on each project over that period. The framework of a health plan will consider issues of objectives, priorities, choices and categorisation of activities.

Health planning always starts with what is affordable and will be affordable in the future. In any plan there is a base line which is normally the report on what was spent in the last year or the last few years, for which data can be collected, how much was spent on what and how it was financed. Expenditures and spending are analysed. A plan can fail if there are uncertainties about the future; the incompetency of planners to undertake the tasks; lack of data to make a thorough and in-depth description of the current situation; and inability to make proper evaluation in order to remedy the problem.



Most national health plans do have the tendency to be over optimistic. They represent what is potentially achievable rather than what is most likely to achieve. Since health care resources are limited and health care costs are constantly rising, it is important to match income with expenditure. Preparation of the health budget is also a form of expenditure control either by applying constraint and it can be used to generate appropriate behavioral incentives to promote greater equity, efficiency, effectiveness and quality. What is more important is to direct the budget to the specific targets to be achieved, to subsidise the under-provided areas or to allocate more funds in the desired direction and priorities.

### ***2.5 Equity and efficiency in the distribution of resources in a health system***

World Bank<sup>91</sup> has identified three main problems faced by the health sector. The first being a problem of allocation where there is insufficient spending on cost-effective activities, the second being internal inefficiency of public programmes leading to wasteful programmes of poor quality and thirdly, the issue of inequity in the inequitable distribution of the benefits of health services. Abel Smith<sup>92</sup> lists out ten major failings of the health services in most developing countries. Most of the issues raised come from the lack of resources and funding which gives rise to issues such as the need for an efficient system by getting the most out of the limited budget and resources. He also observed a dichotomy of scenarios, how one part is better off than the other: in terms of more funding, higher expenditure, higher cost, higher quality verses lack of funding, less expenditure, less costs and less quality care. Such a scenario can be rural-urban differences, secondary and

---

<sup>91</sup> World Bank, 1993, pg. 3-4

<sup>92</sup> Abel Smith, in Griffiths and Bankowski, pgs. 30-31.

primary care, preventive and curative care, accessible and non-accessible for the haves and have-nots and the list goes on.

Inequalities are rising in many countries and the countries concerned are finding it difficult to implement and sustain equitable policies. Inequity creates social gaps in health and health care which are unacceptable both in the developing as well as the industrialised countries. This implies that there exist imbalances in health care systems. These imbalances can be serious for poorer countries especially in terms of distribution of human and physical resources as well as quality care which can widen the gap of inequity and inefficiency of the system. At the same time, efficiency cannot be divorced from issues of distribution and equity.<sup>93</sup> These two issues are faced by health care systems throughout the world in their distribution of health care resources. Most health care reforms whether in developed or developing countries must consider the advantages of equity and efficiency in its public as well as private health care.<sup>94</sup> The pursuit of these two goals more often than not are conflicting rather than complementing each other.

### ***2.5.1 Equity***

Equity in simple terms means fairness. It means reducing unfair disparities as well as meeting acceptable standards. Equity in health care requires equity in the way health care resources are allocated, equity in the way health services are received and equity in the way health services are paid for. Equity is defined as a principle governing distributive

---

<sup>93</sup> McGuire, Henderson & Mooney, 1988, pg.74.

<sup>94</sup> Broomberg J., Health Policy and Planning, September 1994; 9(3):237-51.

functions designed to reduce or offset socially unjust inequalities and it is applied to evaluate the distribution of financial resources and the use of health services.<sup>95</sup> There are many definitions of equity in health care such as equality of utilization, distribution according to need, equality of access, equality in health and etc. According to Culyer,<sup>96</sup> the most dominant one is equality in health but according to Mooney,<sup>97</sup> the most commonly adopted is equal access for equal need. For example, Culyer defines equity in health care as encompassing equality of utilization, distribution according to need, equality of access, and equality in health which are all mutually incompatible.<sup>98</sup> Others include equal access for equal need,<sup>99</sup> equity in terms of outcomes and ability to pay.<sup>100</sup> The different definitions and the varying levels of importance placed show that the issue on equity cannot be applied as standard for all. What is deemed fair or equitable by one person may not be seen as fair or equitable by another as they are driven by values and they represent different moral positions.<sup>101</sup>

Equality of access means providing an equal availability and an equal opportunity to use health services for all. Equal access allows for individual's preferences for the consumption of health care and whether the individual chooses to consume or not is entirely up to him but the health services are made available and accessible to him should he require it.<sup>102</sup> Although this equity is not tied to need but to ensure equality of access to all, allocation of funds and resources for health care are distributed geographically

---

<sup>95</sup> Almeida C, Travassos C, Porto S, Labra ME., International Journal of Health Services, 2000;30(1):129-62

<sup>96</sup> *ibid.*

<sup>97</sup> Mooney G, Jan S, Wiseman V., Social Science & Medicine, June 2002; 54(11):1657-1667.

<sup>98</sup> Culyer AJ, Wagstaff A., Journal of Health Economics, 1993 December; 12(4):431-57.

<sup>99</sup> Mooney G, Jan S, Wiseman V., Social Science & Medicine, June 2002; 54(11):1657-1667.

<sup>100</sup> Ke Xu, The Lancet, available online 18 September, 2003.

<sup>101</sup> *ibid.*

<sup>102</sup> Mooney, 1994, pg. 82.

according to the need in different populations in order to maintain equality of access to all of the same need. According to Gutman, the principle of equal access demands that every person who shares the same type and degree of health need to be given an equally effective chance of receiving appropriate treatment of equal quality so long as that treatment is available to anyone.<sup>103</sup> Unequal access is the outcome of unequal distribution of health care resources. Despite a vast literature on the notion of equity of access, little agreement has been reached in the literature on exactly what the notion ought to mean.<sup>104</sup>

In most health care systems, the pursuit of equity is based on need rather than demand. In terms of resource-allocation based on need, the greater the need, the more the resources are allocated. Sometimes weighting is required and this may pose some problems as to how much weight is to be applied for that bigger need. Although most health services are based on need, the demand for health services is also relevant and needs to be considered especially for the use of particular services or care which are based on individual preferences and demand rather than need. If one is to go strictly on equity use for equal need, it is only about horizontal equity and it does not cater for different uses of care for differential needs. The consumption of health services may involve varying degrees of utility as well as disutility for different individuals.

Equity in essence is a policy that is being promoted to narrow socio-economic gaps whether it is between different socio-economic groups or between different geographical areas through the distribution of health care resources. Therefore, it is not surprising why

---

<sup>103</sup> Gutman as in Bayer, Caplan & Daniels, 1983, pg. 44.

<sup>104</sup> Oliver A, Mossialos E, *Journal of Epidemiology and Community Health*, 2004 Aug; 58(8):655-8

equity is one of the key objectives in most health care systems. A case study in Brazil showed that in their constitution ‘equity’ refers to equal opportunity of access for equal needs, but the implemented policies fail to achieve this due to a number of factors such as underfunding, fiscal stress and lack of priorities.<sup>105</sup> The market system does not promote equity and will always result in unequal distribution of health care resources since equity has something to do fairness and justice as opposed to profit and value for money. Economic recession and weak economic performance can also threaten equity.

There are two types of equity, horizontal equity and vertical equity. The notion of horizontal equity is that people in similar situations should be treated similarly and a move to place individuals to be treated differently is undesirable.<sup>106</sup> It refers to needs that are relatively the same such as degree of sickness. If two individuals have the same condition of ‘ceteris paribus’ they should both be treated equally. It means equal treatment for the equals<sup>107</sup> and it implies equal effectiveness.<sup>108</sup> In practice, although two individuals may have the same problem and be given the same treatment, their outcomes may differ. According to Musgrove, as long as costs are equal, horizontal equity and cost effectiveness are perfectly compatible.<sup>109</sup>

Vertical equity on the other hand is about meeting different needs differently. It involves the unequal treatment of unequal, that is, if individuals have different health

---

<sup>105</sup> Almeida C, Travassos C, Porto S, Labra ME., International Journal of Health Services, 2000;30(1):129-62

<sup>106</sup> Jack W., Health Policy, August 2000; 53(1):61-7.

<sup>107</sup> McGuire, Henderson & Mooney, 1988, pg. 56.

<sup>108</sup> Musgrove P., Health Policy, 2 May 1999; 47(3):207-223.

<sup>109</sup> *ibid.*

conditions, they should be treated differently.<sup>110</sup> It does not imply a policy objective of equalizing health and well-being across groups or individuals but it entails the treatment of different groups differently yet equitable based on the set of values adopted.<sup>111</sup> It means preferential treatment for people with worse problems<sup>112</sup> or unequal but equitable treatment of unequals.<sup>113</sup> According to Jack, vertical equity is really an efficiency argument for the allocation of resources as it wishes to distribute well-being from those who have more of it to those with less.<sup>114</sup> These two types of equity can be applied across socio-economic groups or classes and geographically.

Mooney et al<sup>115</sup> has illustrated a few approaches to what constitutes equity. The common one is the basic needs approach. The notion behind this approach is the right to minimum health care. This approach is a means to addressing the issue of allocating resources to disadvantaged groups. Another approach is the ‘communitarian claims’ or the ‘claims approach’. Claims are ‘reasons’ supported by the notion of duty, why one group should be allocated more resources than another. It focuses on vertical equity in the allocation of health service resources.<sup>116</sup> This approach is open to a wider set of values and value judgment is required. It also promotes greater degree of transparency in the use of values in resource allocation decisions. Both of these approaches give the justification why resources are allocated more to certain groups than the rest.

---

<sup>110</sup> McGuire, Henderson & Mooney, 1988, pg. 55.

<sup>111</sup> Mooney G, Jan S, Wiseman V., Social Science & Medicine, June 2002; 54(11):1657-1667.

<sup>112</sup> Musgrove P., Health Policy, 2 May 1999; 47(3):207-223.

<sup>113</sup> Mooney G, Jan S., Health Policy, 1997 Jan; 39(1):79-89.

<sup>114</sup> Jack W., Health Policy, August 2000; 53(1):61-7.

<sup>115</sup> Mooney G, Jan S, Wiseman V., Social Science & Medicine, June 2002; 54(11):1657-1667.

<sup>116</sup> Mooney G, Jan S., Health Policy, 1997 Jan; 39(1):79-89

Equity can be easily assessed and evaluated through the geographical distribution of health care resources, for example, the distribution of manpower, hospital beds, immunization coverage, etc. According to Elleneweig, a descriptive evaluation of equity consists of comparisons of the availability of health related resources among smaller areas within the country or among different nations.<sup>117</sup> One way of assessing distribution is by analysing the budget allocation and expenditure.

The breakdown of the budgets allocated and the actual expenditure for different geographical areas will clearly show whether any disparity exists and how much policy for an equitable distribution of resources have been achieved for the different states, regions, rural-urban mix and for different health programmes. Data like distribution of the health facilities per population by region, state, urban or rural ratio of different categories of health manpower per population, health expenditure per capita, percentage of capital and operational budget allocated to the different states according to economic status and some health output and outcomes data by states will be some of the important data to show the geographical distribution of health resources and expenditure.

Besides assessing equity through the distribution of health care resources, there is also evidence of income-related inequalities that relates to inequalities in health. A study done in nine industrialized countries on income-related inequalities in self-assessed health showed that across these nine countries, there is a strong association between inequalities in health and inequalities in income.<sup>118</sup> There is a growing concern about the effects of health

---

<sup>117</sup> Elleneweig, 1992, *Analysing Health Systems*, pg. 120.

<sup>118</sup> Van Doorslaer E, Wagstaff A, et al., *Journal of Health Economics*, February 1997; 16(1):93-112.

care financing arrangement on the distribution of income as well as on who receives health care.<sup>119</sup> There are a number of measurements on equity of financing healthcare, one of which is the Kakwani index to measure progressivity of the health financing system.

Evidence from a study of international comparison of financing mixes<sup>120</sup> shows that generally out-of-pocket payment are apparently becoming more regressive, taxes are a progressive means of raising revenue and private insurance is regressive but evidence shows that such conclusions vary depending on the degree of out-of-pocket payment and for which income groups of the population the financing methods are applied. Sometimes a regressive effect is offset by progressive changes elsewhere. However, the measurement of financing methods is not examined here in this thesis.

### ***2.5.2 Efficiency***

Unlike equity, the whole concept of efficiency in health care is about making the right decision with whatever limited resources available, to produce health care goods and services that will give the maximum value to improving the health of the population in relation to the costs of producing them. It is making the money invested worth where costs of producing any given output are minimised and the satisfaction derived from the utility of the health care services are maximised. In any health care system, a large amount of money is invested for the provision of health services, and the question that is often asked is whether the allocation of resources has been efficient or wasteful. According to Mehrota et

---

<sup>119</sup> Wagstaff A, van Doorslaer E, et al., Journal of Health Economics, 18 (1999):263-290.

<sup>120</sup> *ibid.*



al inefficiency occurs when more resources than necessary are used to produce the services that are currently provided or when there is an oversupply of technology or when money is spent on acute care rather than public health which may produce more in terms of longevity and quality of life.<sup>121</sup>

The simple notion of efficiency is analogous to the economist's concept of cost-effectiveness or the accountant's concept of value for money.<sup>122</sup> According to WHO, in economic terms, performance is a measure of efficiency.<sup>123</sup> Health systems that have made improvements in performance are systems which can achieve more with the same resources or achieved the desired outcomes with a given available resources.

Basically there are two types of efficiency, namely allocative efficiency and technical efficiency. Some authors have divided this into three which also includes social efficiency which is the achievement of maximising the total value of outputs produced,<sup>124</sup> which means maximising benefit with the available resources. Allocative efficiency is about maximising health within the constrained resources.<sup>125</sup> Health is maximised through attaining the right mix of outputs with the given resources. The principle behind this is the principle of optimality. Allocative inefficiency may occur if the system produces too many or too few of some services relative to health improvements. There is no point spending a lot of money on treatment of cases for which health improvements or survival are remote or

---

<sup>121</sup> Mehrota A, Dudley RA, Luft HS., Annual Review of Public Health; 24:385-412.

<sup>122</sup> Jacob R, Smith P C, Street A, 2006, pg.2.

<sup>123</sup> WHO, 2000, pg. 41.

<sup>124</sup> McGuire, Henderson & Mooney, 1988, pg. 77.

<sup>125</sup> Aday et al, 1998, pg. 108.

on technical procedures rather than proven preventive activities, for example, health education.

Technical efficiency is where the costs of producing a given output are minimised, or where the output is maximised for a given cost. Technical efficiency refers to the effective use of resources in producing outputs. It addresses the system performance, and can be quantified as the ratio of inputs to outputs. It is producing output at the least cost. Inputs are expressed either in monetary or physical terms, for example, level of health care expenditure measures as a percentage of GNP. Where output is concerned, it involves both intermediate and final outputs. They are normally expressed through a variety of indicators, for example, mortality indices, morbidity measures or utilization levels. Sometimes a distinction needs to be made between final output and intermediate output as the measurement of output may be indirect rather than direct. Inefficiency occurs when care is not managed in a way that maximises potential productivity.<sup>126</sup> This is not about whether the activity is worth carrying out at all but rather which of the activity will cost the least. Cost efficiency refers to the minimum level of economic resources required to produce a desired level of outputs. Cost effectiveness is one approach to determine technical efficiency. Improved technical efficiency would mean lower unit cost than what is current within which objectives are maximised, for example, costs per patient care.

In order to have an efficient health care system, supply side measures must be implemented because by their nature, supply side measures require government

---

<sup>126</sup> *ibid.*, pg. 110.

intervention. Only then, can allocative efficiency and technical efficiency be achieved.<sup>127</sup> Even if an allocationally efficient set of interventions is produced by the health system, the organisational level must assure technical efficiency by looking at the issues of productivity and quality. There are a number of strategies to improve efficiency which the government can apply such as streamlining of capital investment, regulation of improper use of high cost technology, and revision of incentives for health care providers.<sup>128</sup> The use of telemedicine also has the potential of significant economic advantages on the basis of more efficient use of resources.<sup>129</sup> <sup>130</sup> There has always been a presumption that resource allocation which is controlled and directed by the government are less efficient than private-run healthcare whose priority is profit maximisation. Any organisation or system that is not efficient in its production will result in unnecessary high costs and wastefulness. Such a system is not sustainable nor is it desirable no matter how benevolent the organisation is in the long run, whether it is government-controlled or private-run.

Efficiency analysis is centrally concerned with the measuring the competence with which inputs are converted into valued outputs. The measurement of an organisation's technical efficiency is to produce along the production possibility frontier. The measure of allocative efficiency is purchasing the right mix of inputs or producing the right mix of outputs i.e. an optimal mix of inputs and outputs.<sup>131</sup>

---

<sup>127</sup> Tangcharoensathien V, Lertiendumrong J., Hong Kong Medical Journal, 2001; 7(2):169-73.

<sup>128</sup> *ibid.*

<sup>129</sup> Kontodimopoulos N, Nanos P, Niakas D., Health Policy, March 2006; 76(1):49-57.

<sup>130</sup> Yusof K et. al., Asia Pacific Journal of Public Health, 2002; 14(1):29-34.

<sup>131</sup> Jacob R, Smith PC, Street A, 2006, pg. 4.

One of the most common approaches to measure technical efficiency is by using data envelopment analysis (DEA) which is a benchmarking approach. This analysis can help identify clinical and administrative inefficiencies within the health care system by setting performance benchmarks and comparing the most efficient unit with units most similar in orientation (peers). It can assist administrators and policy makers in quantifying target improvements.<sup>132 133</sup> DEA has been widely used to analyze the efficiency of the health sector in developed countries since 1978 and it has empowered ministries of health to play their role more effectively.<sup>134 135</sup> However, there are not always similar units to compare, there are bound to be differences in the structural and organisational capacity, human resource capacity and environmental factors in any health care facility, therefore, such comparison may not give a clear measure of efficiency. Besides the DEA, other techniques include the stochastic frontier analysis<sup>136</sup> and the Malmquist Index<sup>137</sup> but these are all econometrics analysis which is not applied for this thesis due to the inavailability of detailed cost data of inputs and outputs.

Basically the issues and problems faced by most health care systems can be summed up in three main aspects: poor planning; problems with rising costs and financing; and issues of how effective, efficient and equitable healthcare resources are distributed and used. According to Frenk, holding national wealth and health expenditures constant, performance depends on the degree of efficiency and equity with which health care

---

<sup>132</sup> Kontodimopoulos N, Nanos P, Niakas D., Health Policy, March 2006; 76(1):49-57.

<sup>133</sup> Prior D, Sola M., Health Care Management Science, 2000 September; 3(4):299-307.

<sup>134</sup> Kirigia JM, Emrouznejad A, Sambo LG, Munguti N, LiambilaW., Journal of Medical System, 2004 April; 28(2):155-66.

<sup>135</sup> Osei D et al., Cost Effectiveness and Resource Allocation, 2005;3:9

<sup>136</sup> Zuckerman S, Hadley J, Lezzoni L., Journal of Health Economics, October 1994; 13(3):255-280

<sup>137</sup> Jacobs R, Smith PC, Street A, 2006, pg.129

resources are deployed.<sup>138</sup> Different actors in the health system favour different criteria in this process. Efficiency is usually not favoured by society, the politicians, and the policy makers as opposed to the other equally important criterion which is equity or fairness.<sup>139</sup> The pursuits of these two criteria will necessary involve some trade-off as both of these goals are not compatible.

## ***2.6 Health expenditure and allocation of resources***

According to WHO, health care expenditure has risen from three percent of world GDP in 1948 to 7.9 percent in 1997 worldwide and this increase has prompted every government to look for more sustainable health financing arrangement.<sup>140</sup> World trends have shown that total health spending rises from around 2-3% of GDP in low income (<US\$1000 per capita) countries to typically 8-9% in high income (>US\$7000) ones.<sup>141</sup> According to Roemer, as expenditures for health services as a percentage of GNP have been rising throughout the world, the share of health spending derived from governmental sources has also been increasing.<sup>142</sup>

By examining the health expenditure of each health system it measures the achievement of a health system's performance in relation to the resources at its disposal. A study done by WHO on the performance on level of health (in terms of disability-adjusted life expectancy) relative to health expenditure per capita of 191 member states in 1999,

---

<sup>138</sup> Frenk J., *Health Policy*; 27 (1994):19-34.

<sup>139</sup> Kontodimopoulos N, Nanos P, Niakas D., *Health Policy*, March 2006; 76(1):49-57.

<sup>140</sup> WHO, 2000, pg. 95.

<sup>141</sup> Musgrove P, Zeramdini R, Carrin G., *Bulletin of the World Health Organisation*, 2002; 80(2):134-41.

<sup>142</sup> Roemer MI., *The Yale Journal of Biology and Medicine*, 1991 Sep-Oct; 64(5):435-41.

showed that higher health expenditure is associated with better health outcomes<sup>143</sup> although this does not necessarily mean one is the direct cause of the other but they are co-related.

According to Griffin, inevitably the speed of success and the characteristic of government intervention in the health of the population boils down to the question of policy and how countries choose to spend their health resources.<sup>144</sup> Health expenditure is a good indicator to show how efficient and equitable the public health system is. WHO has recommended that for developing countries, health expenditure should be five percent of the GNP. However, some research has shown that the level of expenditure on health has more to do with the level of national income than with the degree of state involvement in health care.<sup>145</sup> <sup>146</sup> Some has even stated that the relationship between GDP and health spending is unhelpful and almost certainly misleading for health policy development.<sup>147</sup> Many researchers have also argued that spending more on health care services does not necessarily lead to improved health status.<sup>148</sup> <sup>149</sup> <sup>150</sup> <sup>151</sup>

The arguments above have to be considered in the light of how resources are distributed to achieve the best outcomes. Health expenditure needs to be targeted to achieve these goals, therefore policy, planning and the allocation of resources are processes to determine public health system performance. Improving targeting to the poor involves

---

<sup>143</sup> WHO, 2000, pg. 43.

<sup>144</sup> Griffin C, 1992, pg. 44.

<sup>145</sup> Hunter DJ., The Lancet, 4 June 1983;321(8336):1264-1268.

<sup>146</sup> Kanavos P, Mossialos E., Journal of Health Service Research and Policy, 1999 April; 4(2):122-6.

<sup>147</sup> *ibid.*

<sup>148</sup> Hunter DJ., The Lancet, 4 June 1983;321(8336):1264-1268.

<sup>149</sup> Tangcharoensathien V, Lertiendumrong J., The Lancet, December 2000; 356(1001):S31.

<sup>150</sup> Retzlaff-Roberts D, Chang CF, Rubin RM., Health Policy, July 2004; 69(1):55-72.

<sup>151</sup> Carr-Hill RA., Social Science & Medicine, November 1994; 39(9):1189-201.

not simply rearranging the public subsidies but also addressing the constraints that prevents the poor from accessing these services.<sup>152</sup> Besides, the attainment of an improved health status may not necessarily be accorded to whether the government spends more or less on the health sector. It is more appropriate to look at the process than the final outcome in assessing the performance of the health system. Should any gap exist, resources can then be allocated accordingly to correct the inequity and inefficiency.

The Declaration of Alma-Ata which established the goal “Health for All” by the year 2000 has defined its goal as “the attainment by all peoples of the world by 2000 of a level of health that will permit them to lead a socially and economically productive life”. Many countries which have invested resources to achieve this goal have witnessed dramatic health gains.<sup>153</sup> Today, many political leaders have recognised that investments in the health of the population especially the poor could enhance growth and reduce poverty. Public subsidies such as health rest on two basic policy objectives – efficiency and equity. Efficiency gains can be achieved when subsidies produce external benefits or correct for market failures and equity in health care spending is providing the basic services that are essential in any fight against poverty.<sup>154</sup> The objective is to achieve the greatest health gains possible within the limited resources available as a prerequisite for improvement in quality of life and improvement in living standards.

---

<sup>152</sup> Castro-Leal F, Dayton J, Demery L, Mehra K., Bulletin of World Health Organisation, 2000; 78(1):66-74

<sup>153</sup> WHO, 2000, pg. viii.

<sup>154</sup> Castro-Leal F, Dayton J, Demery L, Mehra K., Bulletin of World Health Organisation, 2000; 78(1):66-74

Castro-Leal et al<sup>155</sup> proposed two broad approaches to measure the value to the beneficiaries of government subsidized goods and services. The first approach is based on the individual's own evaluation of the good and the second approach is the benefit incidence approach which combines the cost of providing public services with the information on their use to show how the benefits of government spending are distributed to the population. It involves estimating the monetary value of services and how that money value is distributed across the population. Such measurement is difficult in the Malaysian context as there is no costing data on the unit subsidy of providing a service, for example, cost of a health care consultation or visit. There is no segregation of the different income groups to determine the distribution of this transfer of subsidized public health care across the population against the different income groups.

A study on public health spending in several African countries<sup>156</sup> concludes that public spending on curative health care favours mostly the better off rather than the poor. The review showed that most curative health subsidies in the region are not particularly well targeted to the poorest. This targeting problem cannot be solved simply by adjusting the subsidy allocations. Constraints that prevent the poor from taking advantage of these services must also be addressed if the public subsidies are to be effective in reaching the poor such as income, service quality, access, direct user charges and gender. One way to improve targeting is reallocating public subsidies towards services used primarily by the poor. Expenditure reallocation would improve targeting only if they led to a significant increase in use of such services by the poor.

---

<sup>155</sup> *ibid.*

<sup>156</sup> *ibid.*



Monekosso<sup>157</sup> has come out with three types of health expenditure models: public and private expenditure are almost equal; low public expenditure (<15 percent) with high private expenditure; and lastly, high public expenditure (>70 percent) but low private expenditure. Malaysia happens to fall under the first category basing on the MNHA Report 2002 where the public private health expenditure is 56 percent public and 44 percent private for 2002.<sup>158</sup> If government spending is relatively high, the government may have to find means to reduce its share as it may displace private spending.<sup>159</sup> On the other hand if government spending is low, it must set its priorities to solve the serious problems first with the available resources and allocate its resources wisely. For those whose expenditure falls in the middle the decision will be more complex as to where to spend and how much to spend.

Mach and Abel Smith<sup>160</sup> suggest that studies of expenditures and sources of finance in the health sector should be an integral part of the national planning process. The importance of health expenditure as part of a bigger master plan cannot be taken lightly as they serve as a guide to the government to appropriate the right resources should any gap exist. The master plan of all financial and material resources will normally involve data stretching far outside the ministry of health budget into the budgets of other government departments, compulsory health insurance agencies, industry, voluntary bodies and the private sector. But in reality such requirements of data may not be readily available especially those outside the public sector.

---

<sup>157</sup> Monekosso, in Griffiths and Bankowski, pgs. 40-44.

<sup>158</sup> MNHA Project – Health Expenditure Report (1997-2002), 2006, pg.12.

<sup>159</sup> Griffin C, 1992, pg. 53.

<sup>160</sup> Mach and Abel Smith, 1983, pg. 14.

Problems may arise when policy objectives are vague or data on resource allocation is unobtainable for various reasons as this will hamper a detailed study. Griffin suggests that a “health map” laying out priorities for public spending will be useful because once the public health problems are known, it will be easy to determine quantitatively which methods would be most appropriate economically and how to establish priorities among competing needs.<sup>161</sup>

Governments in developing countries are promoting equity to ensure health services are affordable and accessible to the poor as an essential goal to protect them from ill-health and any catastrophic health expenditure. Roemer himself states that world trends have promoted equity in health care delivery.<sup>162</sup> Yet at the same time governments are also implementing cost containment measures to control rising costs such as cost-sharing by patients,<sup>163</sup> introducing medical savings account to wean off dependence on the state,<sup>164</sup> and improving health system performance through using health care resources efficiently.<sup>165</sup> Rising cost of health care is putting a heavy burden not only on governments but also on individuals and communities.

Decisions on resource allocation and distribution will promote and reinforce the principles adopted for the health system. There are a number of resource allocation methods. The historical incrementalist type of budgeting and resource allocation method has been slow in redressing inequities in the distribution of scarce health care resources. A

---

<sup>161</sup> Griffin C, 1992, pg. 154.

<sup>162</sup> *ibid.*

<sup>163</sup> *ibid.*

<sup>164</sup> Lim MK., *Health Policy*, July 2004; 69(1):83-92.

<sup>165</sup> Evan DB, Tandon A, Murray CJ, Lauer JA., *British Medical Journal*, 2001 August 11; 323(7308):307-10.

study has shown that regions with high levels of deprivation and relatively greater need for health care resources are getting less than their fair share.<sup>166</sup> Therefore, improved and new methods have been developed and implemented. An example of a developed framework is the Planning Programming Budgeting System (PPBS)<sup>167</sup> which aims to provide an explicit link between planning and budgeting. This framework is comprehensive in that the three elements of planning, programming and budgeting are integrated into the plan. PPBS links systematically the planning of policies and priorities with resource allocation and the financial planning system. Programme budgeting is part of PPBS where budgets are set out over a number of years based on historical trends and future plans organised into programmes.

Another framework is the Programme Budgeting and Marginal Analysis (PBMA) a priority setting framework in health planning.<sup>168</sup> The PBMA approach is pragmatic, transparent and evidence-based which explicitly attempts to identify ways of maximizing health within a limited budget and is an improvement in the allocation of resources based on historical trends.<sup>169 170</sup> A similar framework to this is the macro-level resource allocation which relies on an expert of of panel mangers and clinicians who are charged with identifying how resources are allocated based on evidence and local information.<sup>171</sup> Other methods include the formula based allocation which involves identifying data sources and formula calculation methods that both reflect and serve programme objectives

---

<sup>166</sup> Eyob Zere et al., International Journal for Equity in Health, 2007; 6:3

<sup>167</sup> Mills and Lee, 1982, pg. 81.

<sup>168</sup> Mitton C., Donalson C., Journal of Health Services Research and Policy, 2001 Oct; 6(4):239-48

<sup>169</sup> Mitton C., Donalson C., Health Care Anal., 2003 Sept: 11(3):245-57

<sup>170</sup> Mitton C., Donalson C., Health Policy, 2002 April; 60(1):39-58

<sup>171</sup> Mitton C. et al., Hospital Quarter, 2002 Fall; 6(1):48-54

to promote optimal use of public health funds,<sup>172</sup> and the outcome-based resource allocation which takes into account both the equity arguments of resource allocation models and efficacy arguments to maximize health gains.<sup>173</sup> Similar to this is the needs-based resource allocation mechanism which incorporates measures of need for health care.<sup>174</sup> One of the methods that is used to attain the improvement of allocative efficiency is the resource allocation mechanism that is based on marginal met need approach which requires transfer of resources between regions up to the point at which the use of these resources would be equally efficient.<sup>175</sup> This list may not be exhaustive and this development clearly indicates that many health systems are developing and looking for better and more appropriate methods in allocating their health care resources. Such changes are inevitable if the health system aims to be responsive to the health needs of the population.

### **3. Scope of the study and data collection**

The focus of this thesis is on the supply side analysis of government health expenditure and it does not include the demand side analysis, for example, household consumption and expenditures, utilization and patient satisfaction, etc. The emphasis of this thesis will be on the public health expenditure as stated in the health chapters of the national development plans, of which the MOH is fully responsible and being the main provider of health services in the country. Although there are other public providers, which are the Ministries of Education, Defence, Housing and Local Government, Home Affairs

---

<sup>172</sup> Buehler JW, Holtgrave DR., British Medical Council Public Health 2007 March 29;7:44

<sup>173</sup> McDermott R, Beaver C, Zhao Y., Health Policy, 1997 Jan; 3a(1):69-78

<sup>174</sup> Eyob Zere et al., International Journal for Equity in Health, 2007; 6:3

<sup>175</sup> do Rosario Giraldes M, Journal of Public Health and Medicine, 1999 March; 21(1):55-9

and Women, Family and Community Development, state and local authorities and various statutory bodies, their roles are relatively small and limited, and therefore they will not be included in the study. Local authorities will also be excluded from this study as the MOH has taken over most of their public health functions except for limited preventive care services and some curative care services for their employees.

Specific population group, namely, the *Orang Asli* will not be included in the scope of study as they come under the administration of the Department of *Orang Asli* under the Ministry of Rural and Regional Development. The Department was established in 1953 under the Ministry of Home Affairs at that time. Presently there are a total of 149,723 (2004) *Orang Asli* population registered with the Department who live in the remote interior of the country. In line with Vision 2020, the role of the *Orang Asli* Department has been revamped to accelerate their socio-economic development, to ensure they are not isolated from the main national development, and to preserve their identity and culture from extinction. The Department also runs a special *Orang Asli* Hospital and do bi-weekly visits to the interior to provide medical services. Since the *Orang Asli* does not come under MOH, they are not included in the study.

The scope of this study will be limited to the study of government health services with special reference to MOH health expenditure; and therefore it will not include private health expenditure. Besides, there is great difficulty in getting information and data on the private sector except for what has been collated by the Ministry of Health.

The data from which the research is based on will be mainly from the five year development plans, the midterm plan reviews and government reports or statistical data from the Ministry of Health, Economic Planning Unit, Statistics Department and other related agencies.

This research is primarily based on a time-trend study because trendability allows the effect of changes made to improve performance to be assessed.<sup>176</sup> Since the research covers a period of thirty years, there may be some years that the data or information required may not be complete or coherent to make comparison between different periods of time. Valid conclusions about time-trends in performance require that the methodology for the measure be stable over time because any changes in the accuracy and completeness of the data that generate the measure can affect trendability. There will be some data missing from the tables and charts presented in the thesis due to the unavailability of the data from the same source. This was to ensure reliability and consistency in the data.

Although the period under study is from 1970 to 2000 some data do not begin with 1970 but at a later year. Such data are those from the Information and Documentation System Unit (IDS), MOH because the Unit only started systematically compiling and publishing data presented in the tables mentioned from 1980 onwards. Prior to that, there were no published statistics and the data was questionable. Therefore, the unavailability of some data or reports for certain years which are anticipated under some unforeseen circumstances may create some problems for a complete trendability study. This may

---

<sup>176</sup> Derose S & Petitti D., pgs. 363-384.

hamper the flow of analysis in getting the full picture of the problem. On the whole generally much of the information and data required are quite readily available and accessible. All figures mentioned under a particular sub-heading are figures extracted from the stated report or document, for example, data under the sub-heading of Second Malaysia Plan (2MP) would come from the 2MP document. Likewise the source of data for all the charts presented in this thesis is extracted from MOH Annual Reports for their respective years.

There are also occasional studies commissioned by the government on the health sector. However, these documents are mostly classified materials and data may not be easily available. Other indirect sources include related World Health Organisation publications, journals which cover studies done by other researchers on similar topics and other related secondary sources both locally and abroad. Unfortunately, there are not many local writers on this subject. Thus, relevant literature review of available sources will be done as the basis for researching the concepts and theories explored by academicians as well as experts in health economics, health care financing, health policy and planning, health management and other related fields.

## CHAPTER TWO

### **Description of the Malaysian health system development prior to 1970**

#### **1. Historical background**

Traditional medicine was practised by the Malays as the solution to all their ailments before western medicine came in. The Chinese and the Indians settlers who migrated to Malaya in the early nineteenth century also brought along with them their respective traditional healers and medicine which is still being practised today in their own respective communities. The influence of the West came when the Portuguese conquered and settled in Malacca in 1511, followed by the Dutch in 1641. In 1786, the British came to the island of Penang and later replaced the Dutch and occupied Malacca in 1795. Although these three western powers had healthcare available through small garrison hospitals and infirmaries for the care of the European officials and their families,<sup>177</sup> it was through the administration of the British colonialists that impacted the development of health care in Malaysia. It was not until 1867, when the British formed the Straits Settlements of Malacca, Penang and Singapore which came under the direct control of the British Colonial Office, that medical services were organised.

#### ***1.1 Development of medical and health services under the British colonial rule***

---

<sup>177</sup> Roemer, 1991, pg. 396.



According to earlier colonial writings, prior to British colonisation, Malaya was one of the unhealthiest parts of the tropics with very heavy mortality among the Asians as well as the Europeans. The principle causes of death were malaria and “fever unspecified”, tuberculosis, pneumonia, and the ‘dirt diseases’ such as dysentery, enteric fever, typhus and ankylostomiasis.<sup>178</sup> In 1851, there was an outbreak of cholera epidemic in Singapore. At that time, Singapore being an entreport coupled with heavy immigration, the problem of poor health was greatly complicated and other outbreaks such as smallpox and plague followed suit.<sup>179</sup> Malaria caused a heavy death rate in Penang due to the ignorance as to the cause and cure of the disease which prevented any preventive steps to be taken. Therefore, it was not surprising that mortality rate was very high at that time.

Initially, the early hospitals were built to cater for colonial employees at the administrative centres. In the early nineteenth century, Chinese settlers came to Malaya in large numbers after tin was discovered. The Chinese immigrants were living in unhygienic living conditions as there was no adequate sewage system and the sanitary condition was intolerable which led to the occurrences of diseases. Similarly, with the introduction of rubber trees and the expansion of rubber estates, a large influx of Indian labourers were brought into the country to work in these estates, which were barely above subsistence conditions in the late 1800s. There was an urgent need of hospitals due to a major outbreak of beriberi among the Chinese miners and also an outbreak of malaria in the estates. Admissions to hospitals were no longer limited to colonial employees but rather most of the admissions were the Chinese and Indian labourers.

---

<sup>178</sup> Mills, L., 1942, pg. 297.

<sup>179</sup> *ibid.*, pgs. 297-298.

The building of hospitals was accelerated after the formation of the Federation of the Malay States (FMS)<sup>180</sup> and later the Unfederated Malay States (UFMS)<sup>181</sup> where the British had greater autonomy in the management of their internal affairs including health. The British established the first general hospital in 1872 and by 1895 there were fourteen hospitals in Selangor, four in Negeri Sembilan and two in Pahang.<sup>182</sup> By 1910, there was already a general hospital in the capital cities of each state. However, health matters were given low priority as shown in the low expenditures accorded to hospitals in the early budgets. For example, in 1877, hospitals in Perak spent 0.7 percent of the total public expenditure and for the same period hospitals in Selangor spent only 0.4 percent.<sup>183</sup>

In 1875, the colonial government also took control of all ‘pauper’ institutions which were previously maintained by private charities or managed by private trustees and all government hospitals which were established initially as military hospitals. Most of the ‘pauper’ hospitals were supported by Chinese communities for their own community interest. The Chinese not only brought along with them Chinese traditional medicine but also built a small 28-bedded hospital for their own community in Kuala Lumpur in 1880. Initially the colonial government laid more emphasis on curative medicine to treat diseases whereas public health measures given less attention not until epidemics of communicable diseases began to occur.

---

<sup>180</sup> The Federation of the Malay States was formed by agreement between the British Resident and the Sultans of four states. In these federated states, the advice of the British Resident was followed on all matters (including health) except religious and Malay customs.

<sup>181</sup> Non federated states were the five other states handed to the British as her “protection” in foreign relations with the Siamese Government.

<sup>182</sup> Phua, 1987, pg. 47.

<sup>183</sup> *ibid.* pg. 44.

The efficiency of an organised medical service under the control of the colonial office was noticeable through the introduction of health legislation and ordinances, a more centralised control of government hospitals and other institutions and the reorganisation of the medical department. There were also constant inspection visits by the governor and other senior government officials to the hospitals and staffing was greatly expanded between 1867 and 1905.<sup>184</sup> The first government outdoor dispensary was started in 1882 and the first medical school was established in 1905 in Singapore. The establishment of the medical school showed a commitment to further expand the medical services to meet the local needs by locally trained doctors.

Diseases such as malaria and cholera were affecting the tin mines, estates, towns and villages due to improper sanitation, lack of clean water supply and overcrowding especially among the migrants as a result of the rapid increase of migration of foreign labourers. There was a growing realisation of the necessity of public health measures. The total population of Malaya expanded from about 2.2 million in 1911 to 3.8 million by 1931.<sup>185</sup>

A cholera epidemic in 1851 led to the building of waterworks in place of town wells in Singapore. Sanitary boards were set up in larger towns to regulate sanitation, water supply, drainage, roads, housing, public markets, slaughter houses, and so on. Sanitary regulations were also passed around 1869-70, among which was the labour code for the provision of proper health and sanitation in the rubber estates. In 1887, a municipal health

---

<sup>184</sup> *ibid.* pgs. 18-30.

<sup>185</sup> Fong, 1989, pg. 13.

department was established. All these measures were taken for the improvement and provision of water supply to reduce sickness during the cholera epidemic, to increase anti-malaria activities among the estate workers and to enforce sanitary conditions at both the estates and tin mines. Most of the public health measures were taken to safeguard and protect the interest of the colonial masters. They could not afford to have the miners and labourers affected by diseases and epidemics as these migrants were crucial to their economy and income.

Other public health activities included port health work which started in 1873 to trace infected ships and also a quarantine station was built at St. John's Island as a result of a cholera epidemic which had been introduced by sea. A port health officer was appointed in 1901 in Singapore who was responsible for the control of infectious diseases, whose tasks include inspecting ships and immigrants as well as supervising the quarantine station. Reports of outbreak of diseases were regularly received and chartered and the effectiveness of this measure was the steady decline in the number of outbreaks of smallpox, cholera and plague.<sup>186</sup> The British invested generously in providing adequate equipment and greatly increased personnel in the port health division.

Other preventive medicine included vaccinations and scientific research on diseases. In 1900, the British established the Institute of Medical Research in Kuala Lumpur which was stimulated by the challenge for research into causes and control of infectious diseases. Research was done in collaboration with the London and Liverpool Schools of Tropical Medicine. This institute started with fourteen European staff. For many years its principal

---

<sup>186</sup> Mills, 1942, pgs. 297-298.

work on applied research and investigations into tropical diseases specifically in Malaya has earned itself an international reputation and recognition as one of the best known centres for the investigation of tropical diseases. Some of the outstanding accomplishments had been the anti-malaria measures which saw a tremendous decline in the incidences of the disease<sup>187</sup> and the disentanglement of several diseases such as Japanese yellow fever and tropical typhus.<sup>188</sup>

Besides research, the institute had another duty to prepare the stocks of vaccines required in Malaya for rabies, cholera and other diseases. They also carried out more complex analyses and examinations of specimens required by the hospitals in the FMS, the health and veterinary officers and the police.<sup>189</sup> The Malayan government provided adequate funds and staff, recognising the contribution provided by this institute and furthermore, there had been a close liaison and collaboration between the research officers and the other medical staff of the Malayan medical service.

The colonial government commitment to public health was realised in 1910, when a separate health branch of the medical department was established to control anti-malarial and other public health work on estates, mines and villages. Gradually, health officers were appointed in the towns and their duties included anti-malaria measures, inspection of water supplies, enforcement of sanitary regulations, supervision of public health aspects of building regulations, licensing of premises and the testing of food stuffs offered for sale. A

---

<sup>187</sup> After twenty years of anti-malaria measures, the incidence of the disease has declined and many areas which formerly were highly malarial are now virtually free from it.

<sup>188</sup> Mills, 1942, pg. 311.

<sup>189</sup> *ibid.*, pg. 311.

few years later, other functions such as medical inspection of schools and maternity and infant welfare were also added. Among the public health activities, campaigns against malaria had been most successful through the creation of the malaria advisory board in 1911. The death rate from malaria was reduced from 17.47 per 1,000 in 1911 to 15.24 in 1920.<sup>190 191</sup> The well organised network of medical and health facilities<sup>192</sup> and close cooperation with other agencies such as village heads, police and post offices greatly helped in the distribution of quinine to the villages.

In 1921, an infant welfare advisory board was established due to the high infant mortality rate. Among the causes were the ignorance of the mothers as to proper methods of feeding, neglect of sick children and unsanitary living conditions. During the decade 1911-1920, the average infant mortality rate had been 196 per 1,000 children under the age of one.<sup>193</sup> In its campaign against hookworm, the government began building sanitary latrines in rural schools, other government buildings and a stricter enforcement of the labour code in the estates. Unsanitary village latrines were being replaced by bore-hole latrines, “pail” latrines and in limited numbers, septic tanks. Sanitary inspectors paid regular visits and enforced strict adherence to the regulations. Piped water was also supplied by municipalities in towns, larger estates and some villages although many still depended on wells for fresh water.

---

<sup>190</sup> In 1921, Sir Malcolm Watson estimated that anti-malarial measures in Malaya have already saved 100,000 lives and an enormous amount of money.

<sup>191</sup> Mills, 1942, pg. 301.

<sup>192</sup> By 1920 there were 51 government hospitals, 60, dispensaries, 151 estate hospitals, 18 ambulances doing dispensary work in rural areas in the FMS.

<sup>193</sup> Mills, 1942, pg. 302.

Tuberculosis was one of the major causes of death in Malaya and was especially prevalent among the urban Chinese due to the overcrowded and unsanitary dwellings without adequate ventilation and also refusal of hospital treatment. House-to-house inspections were made regularly by sanitary inspectors to ensure healthy and hygienic conditions were maintained. Venereal disease was also a serious problem especially among the immigrants. The British colonial government created a social hygiene branch of the medical department to carry out educational campaigns. Maternity, infant welfare and school medical work also expanded with the increased number of midwives being trained and the establishment of infant welfare centres. The centres started with three in the FMS principal towns in 1922 and increased to fourteen by 1937.<sup>194</sup> These centres provided ante-natal and post-natal care, vaccinations, dental work, treated minor ailments, and gave lectures and demonstrations to mothers on how to look after their children properly. The poorer patients were brought in to the centres by the centre's bus.

One interesting observation in the public health activities or campaigns has been the close collaboration among the various branches or units in the Medical and Health Department and also close liaison with other governmental departments. This was one of the British administrative legacies which the Malayan Government had inherited. One cannot deny that the British administrative system had directly and indirectly influenced the decline in diseases through improvements in sanitation, housing and other social aspects of the society which in turn created a suitable environment for economic growth. Mills praised the British colonial government for successfully transforming Malaya from one of the unhealthiest regions in the world to one of the healthiest parts of the tropics in just 40

---

<sup>194</sup> Mills, 1942, pg. 326.

years from the beginning of the century. This was supported by evidence that in the FMS infant mortality rate, which was 218.45 per 1,000 births in 1917, was reduced to 203.11 in 1927 and further reduced to 147 per 1,000 in 1937. Annual death rates on the early rubber plantations were as high as a fifth of the labour force but in 1942, many of these same estates had large hospitals which were nearly empty. Malaria was greatly reduced and many towns were free from it, dysentery and hookworm had almost disappeared and high death rates due to communicable infectious diseases such as tuberculosis and water-borne diseases such as cholera had decreased tremendously due to preventive measures such as more hygienic dwellings, sanitary latrines and piped water.

The building of hospitals and the public health measures committed by the British was for their own economic interests. The diseases that were rampant at that time were all communicable diseases which could easily spread into an epidemic if they were not checked. The British could not afford to have any epidemic of such diseases as it would jeopardise their investment and income from the export-oriented economy that was making them very wealthy.

There were some years especially during the great depression and the world war periods, when expenditure for medical and health was on a very cautious scale due to the decline in revenue but very quickly after those periods, expansion continued. The building of new and larger hospitals was undertaken in the twenties. In addition to the general hospitals, a number of small district hospitals were built at convenient places and distance. Authors such as Ness and Fong have argued that the expenditures on health had the



advantage of supporting the plantation economy.<sup>195</sup> Fong argued that the British government regarded health services as an investment which could help raise the productivity of its labour force and therefore, health services were provided in major towns followed by estates and tin mines where the conditions were particularly bad, but the vast majority of the people in the subsistence sectors were neglected by the British government.<sup>196</sup> This clearly demonstrated that the intention of the colonial masters was not for the welfare of the colony as a whole but the sectors which affected them. Although the colonialists concentrated more on curative medicine in the urban and productive sectors of the economy, a relatively well developed network of medical and health services was established in each state. For example, the general hospitals in each state served as a referral centre for all the district hospitals and health clinics in the respective states.

However the development was not balanced, the western region was well established compared to the eastern states especially the rural villages which remained much undeveloped. The colonial administration failed to provide an equitable provision of health and medical services for all the different groups of people and regions. The remaining decade before Independence saw a greater widening of the gap.

The problem of inequity was deepened during the period of the Emergency<sup>197</sup> where the Chinese settlers in the New Villages were provided with midwife clinics or small first aid facilities compared to the Malay rural villages. Attention was given to expanding new

---

<sup>195</sup> Ness in Wang Gungwu, 1964, pg.312.

<sup>196</sup> Fong, 1989, pgs.14-15, 43.

<sup>197</sup> Emergency began in 1948, a civil war involving an anti government guerrilla movement which resulted in a major resettlement programme of Chinese Settlers into New Villages between 1950-1953.

villages and many voluntary and religious organisations seized the opportunity for social and welfare work. The government welcomed their contributions as a relief to their burden. Through the emergency period, the government began to recognise that the rural Malay villages also had similar needs and thus their deficiencies were highlighted. A series of national programmes were started focusing on improving the conditions of the rural areas which led to the formulation of the Rural Health Services Scheme in 1953 under the Ministry of National and Rural Development.

Besides resettling the Chinese settlers to counter the communist insurgency, the British also realised that medical services could be used to win the aborigines over to do the same. Therefore, basic first line coverage for health care was also introduced to the aborigines with visitations to the jungle posts on a regular basis and providing air support to fly out the sick that needed further medical treatment. The development of medical services for the aborigines however, remained within the Department of Aborigines (*Orang Asli*) Affairs due to their unique circumstances such as the problem of geographical access, communications and social-cultural barriers.

The British were careful not to allow the deprivation of the rural poor be manipulated by the communists against them. It was more for security reasons that the British could not keep a closed eye anymore to the unequal development amongst the different groups of population whether it was the Chinese settlers or the Malay peasants. This created some awareness to the British that should they remain detached to the needs of these rural poor folks, they could be easily pulled over to the side of the insurgents. Some

form of health services was then provided to the rural villages but they were still meagre compared to the already well-established health services in the urban areas.

### ***1.2 Colonial health policy and development***

The development of an organised medical service during the colonial rule began in 1867 where the Straits Settlements came under the control of the Colonial Office in London. Matters relating to health were centrally controlled when a Federal Council was established which became the central authority to legislate and allocate finances for individual states and the federal departments including health. In 1910, the Principal Civil Medical Officer of the Straits Settlement became the Principal Medical Officer of the FMS, thus centralising the State Medical Departments under federal supervision. The new supply enactment gave authority to the Federal Council to administer finances and allocate expenditure.

Therefore, in 1910, the Health Department was organised on a permanent basis and as a federal department, it was no longer under the control of Residents and State Surgeons at the state level but rather the Chief Secretary at the federal level.

During the 1914-1918 war, the Medical Department was greatly handicapped in terms of manpower and expenditure was reduced to conserve resources. After the war, Medical Departments of the Straits Settlements and the FMS were reorganised, the medical and health branches being more clearly separated than previously. During the great depression when revenue declined, unnecessary positions were abolished and the health

branches were especially affected by the lack of manpower. As early as 1910 when the Health Department was established, there was already an inadequate supply of health manpower. This problem has affected the Health Department ever since as the problem kept accumulating without any serious effort to rectify it.

At the same time decentralisation policies were introduced and brought some changes in the organisation. From 1930 to 1940, decentralisation programmes were carried out along with the devolution of powers to the states. The Hose Scheme, as called by the decentralisation committee report, proposed that individual state matters be implemented by the State Departments under the Residents including medical. The Medical and Health Service in the FMS was to be transferred to the local government with the abolishment of the post of Principal Medical Officer and the creation of the State Medical and Health Officers who would be in control of the medical and health branches of their respective states. The scheme was scaled down after much protest.<sup>198</sup> In order to maintain a high degree of uniformity in the four separate administrations, the higher posts in the separate medical and public health services of the colony and the four FMS were combined into a single Malayan Medical Service.

The new head of the service was the Director of Medical Services, Straits Settlements and Advisor, Medical Services, Malay states. He had executive powers in the colony but only advisory powers in the FMS. He also controlled four other institutions which remained federal, namely the Institute of Medical Research, the Central Mental Hospital, the Leper Settlements and Home for the Decrepit. He also took over from the

---

<sup>198</sup> Phua, 1987, pg. 121.

former Principal Civil Medical Officer, Straits Settlements, supervision of the services in the UFMS.

The decentralisation programme in the FMS had somehow influenced the administrative structure of the health services. Medical Departments emerged as partially decentralised throughout the Malay states linked by a common Malayan Medical Service and centrally coordinated through the office of the Director of Medical Services, Straits Settlements and Advisor, Malay states. This was partly due to the signing of the Federation of Malaya Agreement in 1948 under which considerable executive control was delegated to the State Government while legislative power remained at the federal level. The Federation could make enactments to ensure policies were common to all states. Accordingly, medical and health matters were divided between the Federal Government and the various states and settlements. The central government directly financed all federal functions and provided lump sum grants for the medical and health services at the state and settlement level whilst the State Governments manage the public health and hospital services.

Although the Federal Government was to have an overall responsibility and the states and settlements were to exercise executive authority, in practice however, these functions were roughly shared.<sup>199</sup> Therefore, in theory, the State Medical Officers had a good deal of independent power but in practice, they and the Advisor worked together harmoniously since they have grown up together in the service. This work structure and relationship remained after the war and exists until today although the titles have changed.

---

<sup>199</sup> IBRD, *The Economic Development of Malaya*, 1955, pgs. 556-7.

Under the Guillemard decentralisation policy, health services matters remained status quo except for the reclassification of expenditure for sanitary boards and mosquito destruction under the reserved (state) services.<sup>200</sup> The post-war period saw dramatic increases in health and development activities as a result of large financing through the Colonial Development and Welfare Funds and other loans. Public health and medical services were financed by federal funds and provided free-of-charge on a national basis.

In 1951, by an amendment to the 1948 Agreement, the Federal Medical Department came under the responsibility of the Member for Health, for health and medical programmes throughout the Federation from 1951-55. Centralised functions such as overall planning, research, professional staff matters, port health and quarantine, central stores and supplies, and federal institutions including leprosy and mental hospitals came under the responsibility of the Federal Medical Department. The Medical Departments of each individual state or settlement remained under the control of their respective states or settlement governments. The federal authorities reviewed the states' budgets and distributed funds to the states. The Member for Health with the medical services would advise on their plans and programmes.<sup>201</sup> Although both of these two authorities' roles were said to be more advisory they were watchful over what the states were doing with the finances.

In summary, it could be clearly seen from the outset that the colonial policy for the medical and health services was more of a centralised model rather than a decentralized

---

<sup>200</sup> Phua, 1987, pg. 136.

<sup>201</sup> IBRD, pg. 557.

model although the states retained some autonomy to implement their own activities but overall, the administration and the coordination of the services were centrally managed and supervised through a single executive head appointed by the Federal Council. The establishment of the Federal Council gave the British extensive powers to control and dominate all affairs of the state including health matters. Legislation, allocation of finances, planning and staffing were centrally controlled and the Medical Department was designated as one of the federal departments under executive directors who were directly responsible to the chief civil officer of the Federal Government who was the Chief Secretary. Various medical departments were amalgamated to move towards the trend of a centralised government.

After the decentralisation policy, although the executive powers of the central government were limited to only an advisory role to departments that were devolved to the states which have substantial freedom to implement their own activities, but the Federal Government had indirect control over their spending because finance was allocated from the central government. This was done through the review of budgets and expenditures by the central government. Eventually, decentralisation was not one of direct transfer of powers to the state but through the process of devolution, which was delegation of powers to implement what was instructed whether directly or indirectly by the central government.

The health care administration had directly benefited from both the decentralisation and the centralisation policy of the British both at the federal and the state level. It could not be denied that there was an orderly general division of responsibility in the medical and health sector. Their functions, structure and management revealed the extent and the depth

of its influence in the development of healthcare delivery system in Malaysia after Independence. This division was not without problem because this created a stereotype-based structure for the Health Department and later the Ministry of Health until today.

After the Federal election in July 1955, the portfolio of the Member of Health was upgraded to that of the Minister of Health and the Ministry of Health officially functioned on 1<sup>st</sup> December 1956. From 1<sup>st</sup> January 1958, the Ministry of Health assumed the executive authority of controlling the finance for the Ministry, although the financing still came from the Treasury. Expenditure items were already standardised to make it possible for cost comparison in each state. Cost-centres were established for the states as well as individual institutions or units with their own detailed items of expenditure. However, these cost-centres were programmed-based and only aggregated costing by programme was done. Programme-based accounting did not favour detailed cost accounting for individual health facilities which made it difficult for evaluation of performance for individual health facilities or institutions. Nonetheless, this has provided an easy framework to work on for all the cost-centres. The colonialists not only provided a centralised structure of administration but also a strong public service.

## **2. Pre Independence development**

After World War II, the British government passed the Colonial Development and Welfare Act in 1945, which stipulated the formation of comprehensive ten-year plans to encourage 'centrally administered schemes' for development. The 1945 Act provided a sum of 120 million pounds for schemes of development and welfare in Colonial and



Dependent territories and set a ten-year period up to 31<sup>st</sup> March 1956, for assistance from the funds available under the Act. The Federation of Malaya Government was asked to submit a ten-year development programme which would include all important estimates of cost and increases for recurrent and capital expenditure of the various departments including the Department of Medical Services.

Besides this, funds were also provided under the Colombo Plan for a technical assistance scheme for cooperative economic development for countries in South and South East Asia for a six-year period to run from the middle of 1951 to 1957. In order to request for funds under this plan, countries were required to submit estimates of items of development. The Federation submitted the Draft Development Plan but projected forward to 1957 which included additional capital expenditure of RM169 million over that period.

Both the requirements of the 1945 Act and the Colombo Plan marked the beginning of development planning in Malaya. According to the progress report on the development plan of the Federation of Malaya in 1953, the development plan of the Federation was described as consisting of lists of schemes from each department of the government which were expected to be carried out during the six-year period from 1950 to 1955, indicating a programme of works conforming to broadly defined long term objectives. According to Lee, public expenditure planning emerged in Malaya to ensure that adequate financing was available and that priorities for expenditure were established.<sup>202</sup>

---

<sup>202</sup> Lee Soo Ann, 1974, pg. 48.

## ***2.1 Draft Development Plan 1950-1955 (DDP)***

Draft Development Plan also known as the “Yellow Book” was an attempt to define the objectives of social and economic policy for the period from 1950 to 1955. The DDP was to balance both the social and economic objectives in relation to each other and to plan them within range of the resources available. The DDP was divided into four parts and one of which was the development of social services which included education, medical, labour and social welfare services. During the DDP period, priority was given for the strengthening of the economic sectors. Emphasis was given to economic services and infrastructure projects to attract overseas investments in order to broaden the country’s economic base.

The DDP called for a RM214 million of capital expenditure with additional resources of RM174 million to be raised and a further additional RM29.7 million by 1955.<sup>203</sup> Within a year, a revised plan was made at the end of 1951 due to the rapidly changing events and a number of new projects were included, the new total became RM552 million. A second revision was done at the end of 1952 and the revised estimates soared up to RM856 million for the same list of development projects due to cost changes. In just three years, there was more than a four-fold increase in the Plan costs and the bulk of it came from expenditure in technical departments, public facilities and public utilities.<sup>204</sup> On the other hand, the social services category was reduced from one quarter in the DDP to less than one tenth of the capital expenditure in the revised plan. At the end of the Plan

---

<sup>203</sup> *ibid*, pg. 71.

<sup>204</sup> The portion taken by public utilities rose from 27 percent to 51 percent.

period, RM700 million was spent which amounted to almost 82 percent of the allocation and the balance of 18 percent was brought forward into the next plan.

Projects such as communications, transport and public utilities were accorded highest priority with the allocation of two-thirds of the total amount. Next was agriculture and land development which received 22 percent and social services were given only 11 percent. Medical services which was only one of the components under social services, received even much less compared with other social services mentioned above. At the end of 1951, the DDP was revised and as a result the allocation to social services were further reduced and given a smaller proportion of the total allocation. With this decrease, medical services, an item under social services was further reduced from 7.9 percent to only 2.2 percent of total allocation.<sup>205</sup>

Despite the gradual and progressive reduction of the threat from the Emergency, the total expenditure on defence, internal security services and the Emergency continued to rise and reached its peak in 1952 with RM265 million spent while in 1950 the same expenditure was only RM136 million.<sup>206</sup> Maintaining order was given priority because this would encourage an influx of foreign capital investments, as the local capital available was insufficient for development. Besides, after the war, one major task of the government was to reconstruct the infrastructure such as communications and utilities, roads and bridges which were concentrated primarily in the modern sector: mines, estates and urban areas. The emergency and the reconstruction were draining away enormous amounts of money

---

<sup>205</sup> Progress Report on the Development Plan of the Federation of Malaya 1950-1952, 1953.

<sup>206</sup> *ibid.*, pg. 6.

that could have otherwise been used for rural development and much reduced social services.

One of the major problems was the difficulty of recruiting trained staff after the war and shortages were most acute in the Medical Department where there were 228 vacancies not filled in 1950 for medical and health officers and the nursing service. In 1952, the vacancies were 259 for all categories of staff.<sup>207</sup>

On the whole the revised plan's total allocation was increased to almost four times the original planned expenditure. At the end of the revised plan period, the actual expenditure was only three-quarters of the revised allocation. Health spent RM15.3 million of the RM18.5 million allocated in the revised plan. The shortfall in spending of DDP allocation could be justified by the economic and political constraints at that time. According to Phua, these constraints such as the state of civil disorder due to the communist insurgency and the colonial government's burden dealing with the awakening nationalist movement had led to its poor implementation and eventually the shortfall. It cannot be denied that internal security posed a major problem at that time and this was clearly seen in the 1955 estimates where the expenditure for Emergency commanded 'top priority' as emphasised by the Financial Secretary in a budget address in the Legislative Council.<sup>208</sup> On the other hand, no new capital spending for health was allowed by the Treasury for 1954 and 1955 due to the mounting Emergency and declining revenue in the fluctuation of rubber and tin prices and pressures of inflation both internally and externally.

---

<sup>207</sup> *ibid.*, pgs. 8-9.

<sup>208</sup> Phua, 1987, pg. 265-266.

Besides the military objectives, the government soon realised that as part of the coordinated efforts to counter the insurgency, there was a need to continue with the provision of social services. The Department of Medical Services was to be further developed by extending its services through the provision of training schools, improvement of health in rural areas, additional specialised services in general hospitals, wider availability of treatment for tuberculosis, improvement of existing hospitals and other medical institutions and research schemes were planned for the period despite the curb on its allocation. However, due to lack of finances and also the inability of the Public Works Department to cope, the development process had to be realised in stages.

Although there was no new capital spending, the recurrent spending actually increased as it was necessary to continue the provision of existing services. However, the imbalances persisted as the urban areas continued to be favoured in the allocation of resources. Capital expenditure proposed for rural health amounted to under 10 percent of the entire medical programme, while the recurrent expenditure was less than 20 percent.

By 1956, there were 50 district hospitals and 10 general hospitals. Various static dispensaries were mushrooming in the towns and some additional travelling dispensaries to rural locations were also organised. Maternal and child health clinics were established in scores in cities and towns. However, there was a concern over the distribution of health services which were urban biased and the allocations for rural health did not reflect the urgency of the government in improving the imbalance as declared in the DDP.

The British concentrated on the sectors that would bring in the revenue through taxes. It was hoped that through the emphasis given to the economic sectors which was more productive and having direct bearing on economic progress, the strengthening and the growth of this sector would help spearhead the expansion of social services in a parallel development.

## ***2.2 International Bank for Reconstruction and Development Mission's report***

The Federal Government invited The International Bank for Reconstruction and Development (IBRD) to send an Economic Survey Mission to give independent advice regarding priorities and economic policies in relation to development in 1954. The IBRD Mission's report just prior to the 1955 Federal elections recommended that strong emphasis was to be given to preventive and out-patient services to alleviate the future medical load and to minimise increase in costs. Inequitable distribution was to be corrected through improvement and extension of services for the neglected rural poor, balancing urban demands and rural needs and working towards equalisation of access to basic health services throughout the Federation. The mission also recommended the existing pattern of federal financing be replaced by greater cost sharing between the federal and state/settlement governments, to be implemented gradually as local authorities developed new sources of revenue and administrative institutions.

They also recommended the regionalisation of hospitals where the government medical services were to be reorganised into a network of six hospital regions centred in main towns with central general hospitals coming under the purview of the Federal Medical

Department and the rest of the hospitals, clinics and dispensaries under the control of the states and settlements. With this concept of regionalisation, it proposed that each central hospital was to provide a higher level of general and specialised services for the region as a whole. However, this proposed set-up was never implemented. The findings and the proposals of this Mission had identified the weaknesses caused by the British administration in the delivery of health care in Malaya but no rectification was done.

On the other hand, the experience gained from the compilation of the DDP and the IBRD Mission Report formed the foundation of the Federation of Malaya's first five-year plan. At the macro level, the priorities for development were concentrated on economic services, which were generating revenue for the government and the building of infrastructure to support the economic sector. Health and medical services were seen as less important and this was shown by the allocation given to the social sector, in particular the health sector. From the review of the historical background, the pattern was the same throughout the colonial period. It was only when there were outbreaks of diseases, which affected the labour force and inevitably the output of the economy and revenue, that emphasis was given to health and medical services.

As labour was one important input to the economy coupled with the increase in population, continuous medical care became a necessity and towards the turn of the twentieth century the importance of health care was recognised and thus the move to a more organised healthcare delivery system. However, the development of the health sector ran parallel to the development of the export sector and its development. Any sector or region that was seen as unimportant in generating income was given lesser attention. This

exaggerated the problems of inequity and imbalance amongst the different states and regions which were carried over to the post-colonial government after Independence.

### **3. Post independence development from 1957-1969**

#### ***3.1 First Five-Year Plan 1956 – 1960 (FFYP)***

The first five years beginning from 1956 until 1960 was a period of limited self-government, prior to Independence, by the Executive Council and Legislative Council. The FFYP also known as the General Plan of Development was for the period from 1956 to 1960 with the achievement of Independence of Malaya on 31<sup>st</sup> August 1957. The British officials still retained key portfolios such as finance, economic affairs, security and civil service but the less contentious areas such as health and social welfare were handed over to local political leaders. After Independence, health and medical services were transferred from the state to the Federal Government under the responsibility of the Minister of Health and Social Welfare.

During this period the government introduced a new arrangement that in future annual estimates, the annual recurrent revenue and expenditure of the country would be separated from capital and non-recurrent items. Therefore, for the first time the annual estimates for 1957 were divided into two parts, an ordinary budget and a capital budget. The purpose for such a division was to show on one hand whether or not the country's annual recurrent revenue and expenditure was balanced, and on the other hand, how much capital the government was currently investing in the country's future economic and social



development. The FFYP contained firstly certain general statements of development policy and secondly, a series of provisional allocations between new ministries of new capital expenditure totaling RM1,100 million and new recurrent expenditure totaling RM90 million a year for the entire planned period. But the review of the FFYP showed that total public investment from 1950 to 1956 fell short of the targets set at the beginning of the plan. The shortfall was small, only 15 percent of the total public investment of RM1150 million.

The Government decided that of the total allocation for capital expenditure (excluding requirements of the Emergency and the armed forces) 60 percent would go to the economic sector, 30 percent to the social sector and 10 percent to the government sector.<sup>209</sup> Social services were placed on second priority after the revenue-generating economic projects. The FFYP specifically mentioned that education and health were to be given second priority due to the implementation of the new education policy and basic improvements needed for health services. The emphasis for health was firstly to meet the needs of the rural areas and secondly to meet the arrears of maintenance (in the case of hospitals) on existing installations. Then came housing in the third priority category. But the review of the FFYP showed a very big contrast from what was planned. See Table 2.1 below.

Actual expenditure for education and housing was more than 60 percent. Housing took 97 percent of the allocation whereas health took only 25 percent of what was planned. This shortfall was mentioned as attributable to the administrative changes from state to

---

<sup>209</sup> Report of Economic Planning in the Federation of Malaya in 1956, 1957, pgs. 3-4.

federal responsibility; difficulties arising in obtaining land for new buildings; and financial limitation. There were inconsistencies in the policy for social services especially for health.

<b>Table 2.1: Public Investment for Social Services 1956-1960</b>			
Sector	Planned target (millions of dollars)	Approximate actual	Percentage of target
Social Services	212.7	138.8	65
Education	95.4	60.9	64
Health	50.0	12.7	25
Housing	67.3	65.2	97
Total Public Investment	1,148.7	971.7	85
<i>Source: Review of Progress of the First Five Year Plan 1956-60 in the Second Five Year Plan 1961-65, 1965.</i> Notes: <sup>1</sup> Not including investment on defence			

On the whole, it was not surprising why social services were accorded lower priority than the productive economic sector. The Economic Secretariat stated in its development plan and programme report<sup>210</sup> that the rate of development and expansion of social services must depend on the rate of expansion in the economic sector. Only higher production and more trade could generate the income to pay for these services. They saw the relationship between health services and the economic life of the country, but because such services were very costly, the government advocated that these services must be planned on a simple pattern without any frills.

When the Federal Government took over from the British, the distribution of medical and health services were inequitable where 70 percent of the services were concentrated in the urban and sub-urban areas that consisted of 40 percent of the population whereas the remaining 60 percent of the rural folks received very meagre health and

---

<sup>210</sup> The Development Plan and A Capital Expenditure Programme For 1956/60 Malaya (Federation), Economic Secretariat, 1956, Part Five, Development and Priorities. No.53 (Health).

medical services or none at all. This imbalance was given priority by the post-colonial government when the rural health scheme was proposed. Under this scheme, curative and preventive medicines were integrated under the rural health units. For every 50,000 population, there would be a main rural health centre, for every 10,000 population, a rural sub-centre and for every 2,000 population, a midwifery clinic. In other words, a 50,000 population would be served by one main health centre, 4 sub-centres and 25 midwifery clinics.

The emphasis given to the rural areas was realised through the allocation of a substantial RM17 million out of RM25 million capital expenditure apportioned for the rural health scheme which included nine main rural health centres, public health and dental teaching schools.<sup>211</sup> The rest of the capital expenditure went to the building of new hospitals and upgrading of district and general hospitals in the urban areas. For the recurrent expenditure, health was allocated RM7 million a year of the total of RM90 million.

There was a growing awareness among the population to utilise hospital facilities as there was a 20 percent increase in the number of inpatients in the government hospitals on the review of the FFYP. The growing number of patients could be attributed to the rapid rate of population growth. From 1947 to 1960, total population grew by 2.7 million with annual average increase of 3.5 percent, by natural increase.<sup>212</sup> The demand for health services was expected. Another factor that affected government spending was the

---

<sup>211</sup> Report on Economic Planning in the Federation of Malaya in 1956 and on the outcome of the financial talk held in London from December the 21<sup>st</sup>, 1956, to January the 10<sup>th</sup>, 1957, pg. 17.

<sup>212</sup> Lee Soo Ann, 1974, pg. 141.

Emergency. Although it was gradually waning off, the expenditure for security remained high although there was an increased proportion of allocation given to health and other social services. In the review of the FFYP, there was no allocation for defence planned initially but the actual expenditure showed that during that period RM35 million was actually used.<sup>213</sup>

During this planned period, the emphasis was to expand the economic base of the country in order to generate more income, thus, the health sector took a back-seat although some proposals were made to improve the rural health services. This was clearly shown with only a meagre 1.3 percent of the total public investment spent on health, without including the portion for defence. It was obvious that through this centrally financed system, the health sector had to compete with other public investments.

### ***3.2 Second Five-Year Plan 1961-1965 (SFYP)***

After the FFYP, the government continued its policy of expanding industry in the private sector especially the manufacturing industry to widen the economy base for the nation in the SFYP. During this plan period, there was an increase in emphasis to develop the social services, which included health. A total of 25.4 percent of the total capital investment was allocated to the social sector compared to 14 percent in the FFYP. Expansion of health services to rural areas remained the priority and the goal of the Ministry of Health and Social Welfare. The stated objective in relation to the health sector

---

<sup>213</sup> Review of Progress of the First Five Year Plan 1956-60 in the Second Five Year Plan 1961-65, Government Press, 1965, pg 8.

was to extend the public health services over a wider coverage for the rural as well as urban population. Part of its aim was to establish 37 main rural health centres, 148 sub-centres and 652 midwifery clinics to serve an additional 2 million rural population. The costs of this expansion were estimated to be RM40 million.

Improvement and expansion of existing hospitals were also carried out vigorously during this plan period with an allocation of RM50 million. Other programmes that were highlighted were the tuberculosis control programme (RM7 million capital expenditure) based on the most economical and effective methods and the expansion of medical education and training programmes which included the establishment of a medical faculty at the University of Malaya. Capacity for the training of allied health personnel also doubled and the capital costs of training programmes was estimated at about RM13 million. Other services that were mentioned in the plan included a RM5 million medical store cum pharmaceutical laboratory, RM2.5 million for psychiatric services, RM2 million for leprosy services and RM1 million for dental services. The total plan expenditure amounted to RM151 million including social welfare which was accorded RM6 million.

From the review of the progress under this plan, the investment for social and health services was 17 percent of the plan public development expenditure. The government committed a bigger allocation to extend the public health services over a wider coverage of the rural as well as urban population. The measures taken were both preventive and curative. The preventive measures were directed towards control and eradicating communicable diseases such as tuberculosis, malaria, and promotion of health and

sanitation through the rural health service in all states. Curative measures were concentrated by the expansion of existing hospitals and building new hospitals.

During this plan period, the health sector was given more allocation especially for capital investment as the government began to see the importance of having a wider coverage of health services for the country as the population was rapidly increasing. However, the increased allocation was unable to cover the gap that existed.

### ***3.3 First Malaysia Plan 1966-1970 (1MP)***

After ten years of Independence, the government recognised that there was a marked disparity in the level of health care between the more developed states in West Malaysia and the less developed states in East Malaysia, namely Sabah and Sarawak which were incorporated into the Federation in 1963 and also between the rural and the urban areas within the states. Although there was a steady improvement in health shown in the declining infant mortality rates; declining incidences of communicable diseases such as malaria, filaria, leprosy, yaws and diphtheria; and much emphasis given to building of medical facilities, these facilities were not evenly distributed. Therefore, one of the four main objectives of the 1MP was to expand and improve further medical and health facilities in the rural areas. The rest were to provide facilities for training of personnel, to promote the general health of the population through some preventive public health measures and to establish a family planning programme.

The emphasis was on the expansion and consolidation of the rural health service as the majority of the population was predominantly rural. The network of the rural health facilities were extended even to Sabah and Sarawak with linkages to major hospitals. Dental and urban health services were also expanded to cover a larger population through construction of new facilities. At the same time curative services were expanded in areas without such facilities. Six new hospitals were built during the planned period in Peninsular Malaya, six treatment centres and expansion of one general hospital in Sarawak and one hospital and four hospitals in Sabah. Other expansion included another mental hospital while improving existing ones.

Preventive services were concentrated on the control of tuberculosis through vaccination programmes and tracking of the disease, leprosy control programme and malaria eradication programme. Family planning was given more emphasis with the aim to raise the living standards of the population. The programme was promotive in nature and a National Family Planning Board was established during the plan to carry out a comprehensive programme on a national scale.

With all these physical expansions, the plan expenditure were 50 percent more than what was allocated in the earlier plan amounting to RM150.4 million in Malaya; RM18 million in Sabah a 250 percent increase; and RM21 million in Sarawak a 260 percent increase. However, at the end of the plan period, only RM114.2 million or 76 percent was spent in Malaya, RM19.4 million or 92 percent in Sabah and RM13 million or 72 percent in Sarawak. There was a shortfall of 24 percent in the actual expenditure at the end of the plan period. However, no reason for this shortfall was mentioned in the review of the plan.

Although in the health sector, the provision of better health services and the extension of such services to all sections of the population was progressing well especially with special attention given to the expansion of the rural health service, but due to the deep rooted economic and social imbalance between the different groups of the population, a racial riot took place on May 13<sup>th</sup>, 1969. This was the peak of the heightened dissatisfaction of the Malays towards government policies, which were unable to reduce the disparity caused by the colonial masters. It was very obvious that the Malays and the indigenous peoples who were predominantly rural were the most deprived communities where poverty and unemployment were the highest. There existed an economic disparity among the various groups of people in Malaysia according to their economic and social backgrounds, and between the urban and rural communities, which could be easily identified by race. In order to correct these imbalances, the New Economic Policy (NEP) was drawn up which was designed to eradicate poverty, irrespective of race and to restructure the Malaysian society to eliminate the identification of race with economic function. These two-prong objectives were inter-dependent and mutually reinforcing to achieve the overriding objective to national unity. From here, all policies from all sectors were directed to contribute to the achievement of this national policy including health.

#### **4. The colonial legacy after 1957**

The FFYP to the 1MP reflected very much the influence of the colonial masters. The British created an orderly structure for the development of health care in Malaysia. They were willing to spend in their pursuits to serve their own economic and political interests. Malaya was endowed with rich deposits of tin which the industrialised countries



needed in the nineteenth century. At the turn of the century, the boom in rubber planting began another wave of development. The British exploited the situation very well and began building infrastructure of ports, roads, railways, network of communications and bringing the influx of immigrant labourers which were all limited to the west coast of Malaya. When rubber plantations expanded, the concentration was also in the west coast with the advantage of good communications. Therefore, large towns were founded and population grew rapidly in these regions. The rural Malays were only encouraged to grow rice rather than rubber. Although the government did occasionally make positive intervention in the irrigation schemes and provided advice to these peasant rice farmers but the British did not put much enthusiasm with rice cultivation as much as tin and rubber.

However, the wide fluctuation in prices of rubber and tin in between the two wars had greatly caused the same fluctuation in the government revenue. This in turn subjected the expansion of public services to whether it was a boom or a slump period. Expenditure for social services was subjected to the economic return from the exports of these two income-earning commodities. Throughout 1950 to 1962, the percentage of allocations for health was between five to seven percent, except for 1956 and 1957 when the expenditure went up to 12 percent and 10 percent respectively.<sup>214</sup>

Health was given low priority in the first plan, but elevated to second priority in the second plan after revenue generating economic projects. Social services, which accounted for one-quarter of capital expenditure in the DDP, accounted for less than one-tenth in the revised plan. On the other hand, the proportion utilised by public utilities rose from 27

---

<sup>214</sup> Ness, 1967, pg. 107.

percent to 51 percent.<sup>215</sup> Health, as a component of social services received much less and without sufficient capital expenditure to meet the needs of the health services of the rural population, hence, the disparity that already existed between the rural and urban areas worsened. Corresponding to this, the majority of the rural population were Malays and they were economically weaker compared to the other races.

There was a distinct segregation of the population according to their level of income, race and place of residence whether urban or rural. The gap grew wider when the Malays saw that all government efforts were bent on assisting the Chinese in the new villages during the Emergency to gain their loyalty whereas the same amenities were not provided to the Malays in their villages due to lack of funds. It was not until the establishment of the Ministry of National and Rural Development that the British gave more attention to the rural Malay.

From the overview given above, the British were only willing to spend when the need arose especially when their investments were affected. In terms of medical and health services, when the labourers they brought in for their estates were dying of various diseases, money was quickly put in to rectify the problems either by building more facilities or financing research. Their intention was clear. Their development policy was based on exploiting the natural resources for export and industrialisation of primary products to increase revenue to finance other economic sectors, social services and their administration in the colony as well as maintaining order during the Emergency.

---

<sup>215</sup> Lee Soo Ann, 1974, pg. 72.

The Independence of Malaya marked a shift in the goals of the two governments from one of order to economic or development goals.<sup>216</sup> The post-colonial government's efforts were to stimulate national economic developments with particular emphasis on the rural sector. The government planned for an expanding economy and was willing to engage in deficit financing in order to increase public investment that was required to expand the economy. According to Ness, some specific changes that the post-colonial government was determined to do was firstly to change its fiscal policy from a balanced budget to an expanding economy, secondly to change the emphasis from urban development to rural development to provide for the uplifting of the Malays, thirdly to change the position of social services from low priority to a place of high priority, redefining social services as an investment rather than a consumption and lastly to change planning and co-ordination organizations from unspecialised to specialised departments.<sup>217</sup> These changes were not one of a total turn around but rather the emphasis and priorities were different. The intention for the change was also different now because the ruling government was no longer foreigners serving their own interests.

One thing that was clear was the distinction between the policies of the colonial and the post-colonial governments. Each had its own implicit theory of economic development. To the colonial government, any sector that did not bring in immediate and direct returns for their investment was given low priority. Social services were considered as items of consumption rather than investment. The expenditure for health would increase if it were deemed necessary to support the money-generating economic sector. This was clearly seen

---

<sup>216</sup> Ness, in Wang Gungwu, 1964, pg. 308.

<sup>217</sup> *ibid.*, pg. 308.

in the development of medical services and public health campaigns in the mining towns, rubber estates, the ports and etc. in order not to jeopardise their income through high mortality and morbidity.

The post-colonial government was willing to allow a large deficit for the purpose of building up the social and economic overhead especially capital for public investment to pursue a total national economic development. The investment was seen as providing the climate of confidence in the future of the economy. Therefore, social services were not just items of consumption but investment and the post-colonial government greatly increased their commitment of resources towards social services. Education was given higher priority and health to a lesser degree. The change in policy was to a large part to create greater opportunities for all with greater emphasis given to the Malays who had been left behind in the modernisation of the economy through the divide-and-rule policy of the colonialists. As shown in Table 2.2 below, the increased proportions of the allocation were for education and health but the military and police received a decreased proportion in the years nearing Independence and thereafter.

The contribution by the British government was a creation of a thriving export oriented economy with revenue coming in to support the non-economic services independently without having to borrow extensively from elsewhere. Besides, they also left behind an organised civil service which was the British legacy and an organised economic planning and development machinery for the post-colonial government. Another important contribution was the restoration of order which left the post-colonial government

free from any military threat. They had no need to worry and take on this onerous task of incurring heavy expenditure on military and defence.

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Total (Million in RM)	399	614	756	873	810	817	853	928	1106	1077	1133
Federal	340	549	672	790	714	712	740	813	988	980	997
State**	59	65	84	83	96	104	113	114	117	97	136
Agrculture***	1.7	1.8	2.1	1.8	1.9	2.0	2.3	}4.0	3.5	3.4	4.4
Irrigation	1.3	1.2	1.2	1.2	1.4	1.4	1.6				
Public Works	13.6	15.3	14.0	15.6	13.2	12.8	13.4	10.0	11.4	10.8	20.6
Rural Development^	–	–	0.5	0.6	0.9	0.5	0.9	0.6	–	–	1.0
Commerce & Industry	–	–	–	–	–	–	–	0.8	5.5	6.4	4.4
Education	7.1	7.9	8.9	8.9	11.3	10.6	21.3	22.2	13.6	14.8	15.8
Health^^	6.7	6.8	6.5	5.8	4.5	6.8	12.1	10.4	6.5	7.1	7.5
Subtotal	30.4	33.0	33.2	33.9	33.2	34.1	51.6	58.0	40.5	42.5	53.7
MilitaryPolice^^^	22.2	28.7	26.8	31.7	28.5	25.9	23.1	22.6	20.2	18.3	15.7
Total	52.6	61.7	60.0	65.6	61.7	60.0	74.7	80.6	60.7	60.8	69.4

*Source:* Ness G, Economic Development and the Goals of the Government of Malaya, in Wang Gungwu (Ed.) Malaysia: A Survey, F.W. Cheshire GB, 1964, pg. 316.

*Notes:* \*Including Development Expenditures for 1957-1960, years for which the Development expenditures are separated from the ordinary budget.  
\*\*Excluding federal grants to the states to eliminate double counting.  
\*\*\*Including forestry, fisheries and veterinary.  
^Before 1960, this is primarily for the Rural and Industrial Development Authority: for 1951 and 1958-9 this is included in other categories and could not be easily separated.  
^^Including social welfare.  
^^^Including the designated cost of the Emergency for 1954-5, when it was shown separately in the Financial Statement.

The occurrence of a racial riot in 1969 opened the eyes of the government to take serious measures to address the imbalances and inequity between the rich and the poor which could be easily identified by race. Malaysia underwent a major socio-political upheaval and all emphasis and priorities were directed to meet the objectives of the NEP whose main objectives were to eradicate poverty, to restructure patterns of occupation and equity ownership on a more equitable basis. Resources were heavily concentrated in the underdeveloped rural areas.

Although the racial riot was not wholly attributed to unequal distribution of health resources per se, it marked very clearly the bias and unequal development policy of the colonialists. Its influence had such a deep impact that such a riot should occur 12 years after Independence due to much dissatisfaction amongst the poor Malays. The depth of the problem was serious as the post-colonial government could hardly remedy the effect of this imbalance immediately after Independence with the little resources that they had. Although there was some strength in the British bureaucracy, in terms of resource distribution the British were biased towards their own interests. It clearly showed that the post-colonial government has shifted the emphasis to flow along with the national development plans where the rural health service was given more attention.

On the whole, the health system of the country was very much influenced by this historical heritage. A large portion of the features and components of the present health care system were shaped by the earlier developments. The brief historical development would serve as a starting point for this thesis which would further analyse another six more national development plans to see how health care has developed according to the national development policy of the country.

## CHAPTER THREE

### **Description of the Malaysian health system development from 1970-2000**

#### **1. Development and health**

Views on development have changed over the years. Not only has the meaning of development shifted from decade to decade but at a given time, its meaning was different for different groups – the planners, administrators, academics, politicians, etc. Cumper gave the meaning of development as establishing, theoretically and practically, the conditions for a continuing increase in the welfare of human populations.<sup>218</sup> In the 1940s and 1950s, development was seen as solving the problem of material production. Emphasis was placed on economic expenditure to increase the stock of physical capital which was seen as an instrument of growth. Needless to say at this period, health received little of the planners' attention.

In the 1960s, development continued in promoting economic growth but there was increasing skepticism about investment in physical capital, thus directing attention and measures to social welfare and an increasing concern about the effects of development on equity. The government hoped that through the growth of the economic sector, it would bring trickle-down effect to alleviate poverty among the poor and less advantaged and to improve living standards. When it came to the 1970s, there was a shift from one that concentrates primarily on economic growth to one of a multi-faceted process. The focus on

---

<sup>218</sup> Cumper in Lee K and Mills A, 1983, pg. 23.

development was on production at all levels of society, investment in social welfare and redistribution policies that would lead to growth. The face of development was no longer dependent on economic growth alone but social and welfare as well.

According to Griffin, the 1970s was remembered as a decade in which ambitious goals for providing basic health services and reducing population growth rates were widely promulgated and the 1980s were remembered for its stark realisation that those activities are expensive and among the first to be cut when economic growth faltered.<sup>219</sup> This was understandable as in the 1980s, there was a worldwide recession and development was concentrated on the issues of economic recovery and debt repayment. In order to promote growth in these trying periods, policies were aimed at making economic or structural adjustment to achieve the highest possible growth rates. Growth again took preference over equity. In the 1990s, the economic situation improved and high growth rates were recorded. Simultaneously there was also a renewed call for equity to be established as a developmental goal. Although generally this was the global scenario but there were also countries where development has not reached this consensus. In some of these countries, development was not sustainable and aid had to be brought in to improve the situation.

According to Barker, the problem of ill-health is associated with deprivation.<sup>220</sup> It was hoped that by improving the financial position of the deprived, their ill-health would be improved with better standard of living, proper nutrition, and better finance to cope with ill

---

<sup>219</sup> Griffin C, 1992, pg. 1.

<sup>220</sup> Barker, 1996, pg. 104.



health. To a large extent, such development has brought about decreased mortality and increased life expectancy rate of the population.

Generally speaking, a developed country which has the ability and more resources to develop extensive and highly sophisticated health services would experience higher levels of health and better standard of living. On the other hand, in developing countries, governments may not have sufficient resources to provide extensive and sophisticated health facilities, people are relatively poorer and they are less accessible to modern health services. More often than not, these countries would end up with high levels of mortality, morbidity and disability.

In general, most of the factors that influence policies for socio-economic development of a country are also the same factors that influence health policies whether directly or indirectly for example, historical background, economic status, regional imbalance, progress in technology and etc. Although this relationship is not one that is directly associated, the influence one has on the other is enough grounds for an association between development and health in a broad sense. This thesis is not making a hypothesis about the links between development and health but rather understanding that the process of development in a country would have an influence on the development of health care of that country whether it is of direct or indirect influence.

## **2. Malaysian health plans and national development plans**

As mentioned in Chapter Two, development planning in Malaya began after the Second World War when the British Government passed the Colonial Development and Welfare Act<sup>221</sup> in 1945, which provided a large amount of money for development in their colonial and dependent territories. The Malaya-Singapore governments were granted five million pounds by the 1945 Act and this started the planning for development expenditure. Although the amount they received was only a small sum compared to other territories,<sup>222</sup> nonetheless they were required to prepare a comprehensive development plan. The Colonial Development and Welfare Despatch of 12 November stated that:

‘each colonial dependency should first draw up a plan covering all the objects of development and welfare which are thought desirable without attempting in the initial stages to limit this to the exact amount of the resources estimated to be available ...there should be taken into account all the resources likely to be available...the plans should include all major developments on the development side, including all likely major developments on the revenue side.’<sup>223</sup>

The Federation of Malaya was asked to submit a ten-year development plan with all its estimates from the various government departments for the funds they needed. The drawing up a development plan was to determine priorities in the public sector. The

---

<sup>221</sup> The Colonial Development and Welfare Act of 1945 made available \$120 million to the colonies over a ten year period in the following manner:

Central Schemes	23.5 million pounds
Allocations to individual colonies	85.5 million pounds
General Reserve	11.0 million pounds

(source: *Progress Report of the Development Plan of the Federation of Malaya 1950-52*, pg. 13)

<sup>222</sup> West Africa received 30.4 million pounds, East Africa 16.25 million pounds and West Indies 15.5 million pounds.

<sup>223</sup> Lee Soo Ann, (1974), pg. 79.

Economic Adviser to the Malayan Union sat as chairman of the Economic Development Committee to examine proposals for this ten-year plan at the end of 1946. Finally a six-year plan for Malaya was drawn and a special committee under the chairmanship of the Governor of the Malayan Union decided that individual schemes which were revenue producing would raise funds from loans whereas non-revenue producing schemes could obtain aid through the Colonial Development and Welfare grants.

By then, the Federal Executive Council established an Economic Committee and a small Economic Secretariat to serve the Committee. The functions of the Secretariat included advising on matters of public policy in the economic field; the preparation of development and capital expenditure plans and programmes; and the planning and co-ordination of technical assistance schemes from various sources. The FFYP corrected the mistake made in the DDP where the long-term objectives were too broad and vague and the list of projects was too rigid. The latter plan set out the overall framework, and how much of the total capital expenditure would go to which sector was predetermined<sup>224</sup> and within these broad allocations, certain priorities were set.<sup>225</sup>

After Independence, one of the distinct innovations to the plan was to separate capital budgets from ordinary budgets for the purpose of avoiding bottlenecks and successive backlogs of work if the development finance were merged with the ordinary budgets. See Table 3.1 below.

---

<sup>224</sup> The economic, social and the government sector were allocated 60 percent, 30 percent and 10 percent of the total capital expenditure respectively.

<sup>225</sup> First priority went to plantation, general agriculture, mining, land utilisation and industrial development, second priority went to new education policy, improvement in health services and new water supply schemes and third priority went to fuel, power and communications.

<b>Table 3.1: Plan Targets and Actual Expenditure 1950-1960</b>			
Development Plan	Plan Target	Approx. Actual Spending	% of actual expenditure and shortfall
Draft Development Plan 1950-1955	\$856 million	\$730 million	85.3 % spent 14.7 % shortfall
First Five Year Plan 1956-1960	\$1,148.7 million	\$1,006.7 million	87.6 % spent 12.4 % shortfall
<p><i>Source: Federation of Malaya, Draft Development Plan, 1950 Progress Report of the Development Plan of the Federation of Malaya 1950-52, Kuala Lumpur, Government Printer, 1953. Malaya, Second Five Year Plan, 1961-1965, Kuala Lumpur, Government Printer, 1961.</i></p>			

From Table 3.1 above, the estimated expenditure required was more than what was actually spent. This shortfall may be seen as the weakness in implementation but the extra finance brought about an increase in government's savings and reserves. According to Lee Soo Ann,<sup>226</sup> the first two development plans above, somehow missed the mark of an ideal plan in that they did not become instrumental in stimulating the development of growth potential of the country, by providing not only a perceptive analysis of economic problems facing the country but also the various government responses to these problems as expressed through its expenditure programmes, fiscal policy and other measures. Rather the emphasis was on the adequacy of development finance and not the promotion of growth at all levels. The public sector projects were not closely co-related to growth in output of particular sectors and capital expenditure was not related to recurrent expenditure commitments from the ordinary budgets.

The early plans were rigid and financed development expenditures could not be freely transferred to projects other than those assigned to a particular loan. Therefore, with separation of the ordinary from the capital budget, there was more freedom in allocating finance and resources. Although high proportions of the planned projects were carried out,

---

<sup>226</sup> Lee Soo Ann, (1974) pg. 78.

they were not linked to the overall growth and the problems facing the economy. The formation of the Economic Secretariat to serve a ministerial planning committee brought some positive changes and allocation of expenditure was no longer for the sake of financing the project alone but to envisage growth in total and not just the economic sector alone. This was clearly seen when greater emphasis was given to other sectors especially the social sectors. See Table 3.2 below.

<b>Table 3.2: Allocation for the Social Sector from the Total Expenditure 1950-1960</b>						
Development Plans	Education	% of Total Exp.	Health	% of Total Exp.	Housing	% of Total Exp.
Draft Development Plan 1950-1955	\$51 million	5.9%	\$18.5 million	2.2%	10 million	1.2%
First Malaya Plan 1956-1960	\$95 million	8.3%	\$50 million	4.3%	67.3 million	5.8%
<i>Source: Federation of Malaya, Draft Development Plan, 1950 Progress Report of the Development Plan of The Federation of Malaya 1950-52, Kuala Lumpur, Government Printer, 1953. Malaya, Second Five Year Plan, 1961-1965, Kuala Lumpur, Government Printer, 1961.</i>						

Allocation for education increased from 5.9 percent of the total expenditure in the DDP to 8.3 percent in the FFYP, health increased from 2.2 percent to 4.3 percent and housing increased from 1.2 percent to 5.8 percent between the two plans. With these larger allocations, the social sector became more important in total plan expenditure. In the later development plans that followed, the social sector was no longer perceived as less important to development and growth.

After Independence, planning for the health sector has been done primarily by the Ministry of Health (MOH) which is a federal department headed by the Minister of Health. Health policies in Malaysia come in various forms. The most authoritative form is the health chapter of the national development plans and they are essentially the operational

policy for the public health sector. Other forms of health policy are guided by official statements from the Ministry of Health, the Minister of Health's press statements and directives and the Director General's circulars and directives. Currently there are broad policies and guidelines drawn up by MOH such as Vision for Health, Mission Statement of MOH and the Eight Health Services Goals.

National development plans are compiled and produced by the Economic Planning Unit (EPU), however, the health chapter is contributed by MOH and reviewed by the central agency. Health policies and programmes as stipulated in the health chapter are both endorsed by MOH and the central agencies, namely, the Economic Planning Unit which oversees the overall development planning of the nation; and the Treasury which allocates the financial resources for the individual sector. These two agencies' role is to ensure a harmonious and balanced development for the country in accordance with the national economic policy. However, MOH has direct authority over its own services and programmes and the funds allocated to it.

The Ministry has no right to decide on the use of the funds by other ministries or other public agencies, even though the activities are health related such as water supply, sanitation and nutrition programmes. The limitation of the Ministry is more obvious if the funds are used in the private sector. Despite these limitations, MOH is still overall responsible for the country's health sector and thus, have the right to know about all the sources of finance and expenditure in the sector, although information about the private sector is always difficult to obtain or incomplete. In Malaysia, although there is a clear

dichotomy of the public and private mix of delivery of health care, the public sector plays a dominant role complemented by the private sector.

Malaysia had inherited much British administrative legacy with the central government directly controlling all public finance through the Treasury. Besides the Treasury, the Economic Planning Unit (EPU) of the Prime Minister's Department is responsible for collating and reviewing plans from the various sectors through their related ministries and departments before finally publishing the five-year development plan. Before the plans go into print, the sectoral plans are reviewed by a technical working committee comprising of all heads of the sectors. They are involved in making necessary amendments to ensure that the sectoral plans follow the overall development's objectives and strategies of the national plan before the final draft is brought to a ministerial committee chaired by the Prime Minister himself for approval and later presented to Parliament as the national development plan for the country for the next five years.

Targets are set from plan to plan and in the middle of each five-year plan a midterm review is done. The midterm review of all the sectors are collated and published as part of the national development document. The review also goes through the same process of evaluation and scrutiny as the five-year plan before it is brought to the different committees and Parliament. MOH is directly responsible for the health chapter in the development plan and thus, the health plan for the health sector is incorporated into the development plan through the health chapter. In the absence of a national health policy blueprint in a single document for Malaysia, the health chapter of the development plan is considered as such. Basically, the five-year development plans lay down socio-economic problems faced by the

country, strategies that need to be undertaken, priorities and future prospects for the nation of all sectors. Funds are allocated according to the plan in order to achieve its objectives and goals.

In Malaysia, the national plans comprise of long-term plans, middle-terms plans and short-term plans. The long-term plans cover a period of 10 to 20 years as in the First Outline Perspective Plan 1971-1990 (OPP1), Second Outline Perspective Plan 1991-2000 (OPP2), and the present Third Outline Perspective Plan 2001-2010 (OPP3). These are very broad objectives to guide the five-year plans, which are the middle range plans. Short term-plans are the yearly plans of the various ministries. The Ministry of Health publishes the MOH annual reports, which give a comprehensive report on achievements of the MOH in terms of programmes and activities including some statistical data on what has been achieved. However, the annual reports do not show comparative data over a time frame.

In Malaysia, there is a bureaucratic hierarchy where the executive powers are concentrated at the top headed by the Secretary General of Health<sup>227</sup> and the Director General of Health<sup>228</sup>. At the state level, the State Health Departments are headed by the State Directors of Health who are appointed by the top management of MOH at the national level. The duties of these State Directors are to carry out the national health policies and programmes drawn up by MOH. They have little discretion on their own to undertake innovative activities except to implement what had been instructed by the top.

---

<sup>227</sup> Secretary General of Health is the chief administrator and the controlling officer for the Ministry of Health.

<sup>228</sup> Director General of Health is the head of the medical and health service.



At the district level, the autonomy is even less as they are responsible directly to the State Directors. Medical and Health Officer at the district level are responsible only for preventive oriented public health activities, along with the rural health service programmes. They are also responsible for the proper functioning of all the peripheral units in the district which include a main health centre, sub-centres and rural clinics. They have no jurisdiction over district hospitals whose Medical Directors report directly to the State Health Director. The responsibilities of the health officers at the district level and even at the hospital level are restricted to the programmes of MOH.

Any health policy or strategy to deliver health and health related programmes whether curative or preventive to the whole population is in the hands of the public administrators whether they are from MOH or other governmental agencies. Decisions on where to get the financial resources; what type of health services to provide; how much to spend; to whom they should benefit; what programmes should be given priority; and etc. are all written in the health chapter of the five-year development plans which will be reviewed below. These so-called health plans in the health chapters do not take into account the expenditures in the private sector and therefore, they do not reflect the entire health sector but only the public health sector with very little information about the private sector.

In order to know and assess whether we have achieved such well-being, or whether we are moving slowly in the right direction, there are some common indicators for development. Besides the common indicators of development such as gross national product and gross domestic product, other indicators being used are such as measures of health, mortality, poverty, income and so on which are all related to well-being. In

conclusion, health cannot be divorced from development. A total picture of development must include the development in health and healthcare, which would result in measurable health outputs and outcomes as indicators for development.

### **3. An overview of health plans from the Second Malaysia Plan 1971-1975 to the Eighth Malaysia Plan 2001-2005.**

#### ***3.1 Second Malaysia Plan 1971-1975 (2MP)***

The 2MP was quite different from the previous plans as it has an overriding long term national objective to meet as spelled out in the NEP and the 20-year OPP1. Therefore, all sectors have to participate and support the development and achievement of this national agenda unlike the previous plans.

In the health sector the main thrust of the 2MP was the expansion of the medical and health services in both the rural and the urban areas. The main aim was to achieve a balanced distribution of services between the rural and urban areas and also within East Malaysia and West Malaysia. Just prior to this plan, the racial riots of 1969 indicated that there was an economic and social imbalance amongst the different groups of population in Malaysia. The Malays and the indigenous peoples who were predominantly rural were the most deprived communities and their poverty and unemployment rates were the highest.

With the implementation of NEP, policies from all sectors were directed to contribute to the achievement of this national policy. Therefore, it was understandable why

the health sector was aiming for a balanced distribution of services so as not to deprive one group against another. The MOH was providing and extending health services to areas or states that were lacking them to meet the national objectives. Unfortunately, the magnitude of the imbalance in the development of medical and health services was not specifically mentioned in the 2MP and the areas targeted as priority areas for rectification in the delivery of health care services were also not specifically identified. The plan only mentioned generally that the emphasis was on rural and remote areas.

In view of this development, the health programmes under this plan were to continue with consolidating the existing health services with greater emphasis on rural health and extending its coverage to more remote areas.

In the 2MP much attention was given to the expansion of rural health services introduced in the early 1960s. During the 2MP, there was an increase of five new hospitals, 15 percent increase in hospital beds amounting to 2,614 additional acute-disease beds, 29 new main health centres, 66 new sub-health centres, 339 new midwifery clinics-cum-quarters, 147 new dental clinics and 320 new dental chairs. Physical development continued to expand but amidst this expansion, one of the main problems highlighted in the 2MP was the shortage of specific categories of medical and health personnel to operate these facilities.

The 2MP proposed an extensive development of medical and health facilities both in the urban and rural areas but there was no indicator to show the proportion of resources the rural areas received compared to the urban areas. Although there was some decline in

the incidences and deaths arising from communicable diseases and a parallel overall progress in terms of health status measurements where infant mortality rate and crude death rates declined significantly, the imbalance distribution of medical and health facilities continue to exist. The issue became more complicated and acute when the government realised that the heavy investment in medical and health facilities were not matched by the capacity to operate them, thus utilisation of some of these facilities was hampered.

The rural areas were badly affected by these shortages. By the end of the 2MP, the government did make some improvements by doubling the intake of all categories of paramedics and allied health personnel. The intake of student doctors at University Malaya increased by 25 percent but the output of these personnel was not immediate and therefore the shortages were still very critical. The government also introduced compulsory government service<sup>229</sup> for new doctors as a condition for registration and also began recruiting foreign doctors on contract basis to meet the shortages in the public sector.

The increase in allocation for health in this plan was not very significant and some cases were even lower than the previous plan. There was only 11 percent increase for West Malaysia, 28 percent increase for Sabah and 19 percent decrease for Sarawak compared to the allocation given in the 1MP. From the review of this plan, there was an increase in the utilisation of hospital services. The number of admissions to public hospitals grew from 490,000 in 1970 to 606,790 in 1975, an increase of 24 percent. Outpatient attendance also grew from 5.8 million to 7.3 million, an increase of 26 percent during the same period. Specialist' services in hospitals also expanded. This increase in attendance was due to the

---

<sup>229</sup> This compulsory service enacted as law under the Medical Act 1971.

growing population and a greater awareness of the population in seeking proper care in hospitals than relying on their traditional medicine.

The expansion of rural health services continued with the integration of preventive and curative services which included school health programmes; environmental health projects; applied nutrition improvement programmes; health education; community organization programmes; and family planning programmes. In the urban areas, promotional activity on industrial hygiene was introduced to alert the public to the health hazards of industrialization.

During this plan, the only reform was the restructuring of the rural health service from the existing three-tier system to a new two-tier system which involved upgrading of health sub-centres and midwifery clinics to rural clinics (*klinik desa*). Under this new system, one health centre was to serve a rural population of 15,000-20,000 and one rural clinic for every 4,000 population instead of a main rural health clinic to serve every 50,000 population, a rural sub-centre for every 10,000 and a midwife clinic to serve every 2,000 population in the old structure. With this new structure, better quality services were brought nearer to the rural population and for better coverage of these services as well as less bureaucracy in the system with fewer levels of administration. Basic maternal and child health services were brought to remote locations and they have indirectly assisted in the reduction of poverty in the remote rural areas. Other existing services such as urban health services, dental health services, control and eradication of diseases, family planning programmes and training programmes were said to be satisfactory implemented. These

successes were purely from the aspect of resource inputs such as expansion of services, coverage and new facilities to the population.

From the total revised development health budget allocation given under the plan, only 76.75 per cent of the expenditure was spent. Curative services took up 65.5 percent whereas preventive services took up 22.03 percent of the total health budget and 17.7 percent went to the rural health service. Training was only 5.6 percent of the total budget. The allocation of the development budget did not accurately mirror the stated intention of the government to give more emphasis to rural health service and training which were allocated only 17.7 percent and 5.6 percent of the budget respectively. A large portion went to curative services which were mainly hospital services. There was a shortfall in the utilisation of the allocation given during the plan period. The reason for the shortfall was not mentioned in the plan.

### ***3.2 Third Malaysia Plan 1976-1980 (3MP)***

In the 3MP it was stated that there were considerable achievements under the 2MP, however, there were still shortages of facilities and health personnel as far as the rural areas were concerned. They were unable to meet the target set in the 2MP which was the restructuring of the rural health service. The main objective of this Plan remained the same as the previous plan which was to reduce the disparities in the provision of services among the states. Expansion and consolidation of rural health facilities continued to be the focus and emphasis was to further improve coverage to the rural areas and isolated pockets of population. The old three-tier system continued to be upgraded to the modified two-tier

system. Facilities were provided in areas where there was sufficient numbers in population but with no facilities available. However, the upgrading from the three-tier to the two-tier system took time to be fully implemented. From 1970 to 1980, there was an increase in the number of main health centres from 44 to 77, an increase of 75 percent, sub-health centres from 180 to 252, an increase of 40 percent and midwifery clinics from 943 to 1,465 which included 551 rural health clinics, an increase of 55 percent for Peninsular Malaysia.

The change-over had some problems in the initial years as facilities had to be upgraded and personnel retrained. Midwives were upgraded to rural nurses and retraining was required. For areas where health facilities were not yet in place, mobile teams were established to provide preventive and promotive services. The rural health services in Sabah and Sarawak also followed a similar pattern of a two-tier system but served a smaller population due to the low density of the population there. During this planned period, dental health services also expanded through the integration of dental services with the rural health service.

Other public health programmes which were highlighted in the plan were the rural environment sanitation programme; the applied food and nutritional project; and control and eradication of communicable diseases for cholera, dengue hemorrhagic fever and malaria. In view of the increasing number of industrial accidents, an occupational health unit was established; other units that were set up during this plan include vector control units and food control units in MOH. It was clearly seen that the public health programmes expanded in scope to improve the delivery of services. Urban health services were decentralised in the metropolitan areas and larger townships. There was no reform to the

health sector during this plan except that which was carried forward from the last plan. Rural health service remained the public health sector priority which was in line with the national policy to improve the standard of living among the rural population.

The 3MP also called for development of new hospitals and the improvement of existing ones in the less developed states. In this plan, there were programmes for high quality diagnostic and curative services. Hyper-speciality departments were planned on a regional basis with a clear referral system to transfer the patients to the level of care that was required by the patients. From the review of the admissions to hospitals, organic diseases and trauma had overtaken other admissions for communicable diseases such as tuberculosis and malaria which accounted for 2.9 percent and 2.8 percent of total admissions respectively. There was a long-term target to achieve two 'acute' beds per 1,000 population and to build one hospital for each district. This explained the continuous construction of new hospitals and the upgrading of existing hospitals during the plan.

The original development allocation for health and population health programme under the 3MP was RM377.15 million and it was revised to RM529.72 during the mid-term review. There was a significant increase of 40 percent in the allocation within the plan period. This increase reflected the emphasis given by the government towards health improvement in terms of construction of new hospitals in districts. The expansion was not only in physical facilities but also manpower supply but the latter was still inadequate to meet the demand.



Training programmes were rigorously carried out with a two-fold increase in the intake of trainees for all categories of health professionals at all the local training institutions. In terms of increasing medical personnel from 1970 to 1980 the intake of trainee doctors jumped from 120 to 340, a 183 percent increase; trainee dentists from 32 to 48, a 150 percent increase; trainee pharmacists from 20 to 75, a 275 percent increase; trainee nurses from 1,300 to 3,000, a 131 percent increase; and dental nurses from 50 to 100, a 100 percent increase. However, these increases fell far short of what was required to fill the shortages.

All programmes obtained an increase in allocation but in terms of percentage to the total development expenditure after the revision, the total amount allocated to public health services was 22.47 percent compared to 19.54 percent before the revision. Patient care services were allocated 45.29 percent compared to 49.8 percent and training was allocated 6.2 percent compared to 5.8 percent before the revision. The increase of the total development budget by 40 percent showed that the government was putting a lot of emphasis on physical infrastructure development such as upgrading health facilities, building new hospitals and health clinics. This budget reflected the intention of the government in improving coverage of the public health service by means of physical expansion.

### ***3.3 Fourth Malaysia Plan 1981-1985 (4MP)***

In the 4MP, the rural health service again continued to be the focus, taking a more integrated approach with emphasis on research, planning and delivery of health and welfare

services. The integrated approach expanded to include promotive, preventive, curative and rehabilitative care through the revised two-tier system. Conversion of the three-tier to two-tier rural health care delivery system continued in this plan to further strengthen the family health services, maternal and child health services, communicable diseases control programmes and the dental health services which were part of the two-tier rural health programme. Other public health programmes such as the rural health sanitation, applied nutrition programme, occupational health and food quality control programme continued to be strengthened and implemented extensively to improve coverage to the population both rural and urban. Measures were taken to promote close co-operation and collaboration with other health related agencies such as Applied Food and Nutrition Programme (with the Ministries of Local Government and Education), School Health Programme (with the Ministry of Education) and integration of family planning with the maternal and child health services projects (with the National Population and Family Planning Board). Community participation in the public health programmes was also encouraged, among them include setting up of Health Clinic Advisory Panel, Village Head Promoter Programme, Primary Health Volunteer Programme which consist of community leaders and members of the public; extensive health education initiatives through community clinics, homes, villages and any influential persons in the community to improve acceptability; safe motherhood strategies; risk approach projects; child health and extended programmes on immunization through the use of village heads, religious figures, village women or village health workers.

Although the rural health service remained as the main thrust of the public health sector with much improvements and expansion of its facilities and services, the benefits of

these programmes were not evaluated to see the effectiveness of the programmes and who has actually benefited from them. During the plan period a total number of 44 health centres and 164 rural clinics were added for West Malaysia. The mid-term review of the 4MP mentioned that steps would be taken to improve rural health service through maximum utilisation of health facilities available in the rural areas in particular the less developed areas but in reality building more rural health facilities was not promoting maximum utilisation when utilisation rate was low and the rural population was dwindling.

For hospital services, emphasis was given to the provision of easily accessible diagnostic, curative and rehabilitative services to the population both as in-patients and out-patients, including the early detection and treatment of diseases and illness. The development of new and expansion of existing hospitals was intensified in order to achieve the target of two acute beds per 1000 population. Hyper-speciality curative services continued to be made available on a regional basis. A cardio-thoracic unit was established in the Kuala Lumpur General Hospital in 1982 to meet the increasing demand for surgical treatment of heart cases. From the mid-term review of the plan, due to the changing pattern of diseases related to lifestyle, demography and ecology changes, provision of more effective and appropriate facilities and medical technology were to be undertaken. Hospital development planning was emphasised in view of the under-utilisation of small district hospitals and congestion in general hospitals. A number of selected general hospitals were converted into regional referral centres and more outpatient polyclinics were established in the urban areas. There seemed to be an attempt to regionalise hospital services through the referral centres and at the same time to decentralise the outpatient services. However, these

efforts were not enough to reduce the congestion that existed in all the outpatient departments of the general hospitals.

The existing health care infrastructure offered a comprehensive health care delivery system, from the first point of contact through the rural clinic right up to the district and general hospitals in each state and if required to the highest tertiary care level at the Kuala Lumpur General Hospital which was also known as the National Referral Centre. This hierarchical system ensured access to all levels of care for the population but geographically there existed disparity in terms of accessibility to health care services by the population in the different states in the country as stated in the NHMSII that not all population in all states has equal access to static health facility in the country, for example, although 88.5 percent of the population lived within 5 km of the a static health facility but in Sarawak, Sabah and Pahang the percentages are 60.5 percent, 76.3 percent and 79.2 percent respectively.<sup>230</sup>

With the increase in the medical and health facilities, there was a shortage of medical and health personnel. In order to meet the manpower requirements, output of professional and paramedical personnel were stepped up with increased intake in capacity as well as recruitment of doctors on contract. Post-graduate medical centres were set up in most of the general hospitals to provide facilities for post-basic training of doctors and other professionals. The intake of medical trainees has more than doubled and in some instances trebled during the 4MP. However, the supply was still unable to cope with the demand and the expansion of facilities.

---

<sup>230</sup> NMMSII, 1997, pgs. 38-39.

Research programmes were also expanded through the Institute of Medical Research (IMR) to provide various types of diagnostic services and manpower training for laboratory services. IMR also undertook a number of studies with the World Health Organisation.

The mid-term review of the 4MP showed that there was improvement in the overall health standard of the population as indicated by the decline in the infant mortality rate, toddler mortality rate and increase in life expectancy at birth, but the cost for financing medical and health services had increased substantially. This was due to the increasing number of people seeking treatment, costlier medical technology, changes in disease pattern and rising public expectation of the quality of the medical services.

The allocation for public development expenditure for health and welfare programme was revised to RM792.75 million from the original allocation of RM657.27 million, an increase of 20.61 percent and a total increase of 49.65 percent from the previous plan. The pattern of allocation went back to the old pattern in the 2MP where patient care services which were largely hospital development took the biggest portion of the development budget whereas the rural health service was given 18.3 percent and training was given 4.54 percent initially. In the review of the 4MP, the proportion to be allocated to the rural health service was increased from 18.3 percent to 25.77 percent but the percentage for training was reduced from 4.54 percent to 2.76 percent. Both public health services and patient care services increased from 18.59 percent and 52.77 percent to 25.87 percent and 57.8 percent respectively. The development expenditure on the whole had increased but

the percentage distributed to the various programmes remained the same and followed a similar historical pattern as in the earlier plans.

In the review of the 4MP, there were two main objectives stated for the health sector, one of which was the strategy for privatisation which was part of the government's policy of privatising government interest and services for better quality services provided by the private sector and on the other hand, due to the rising health care cost, rising public expectation and demand for higher quality medical care service, there was a call to reduce the financial burden of the government through some alternative financing scheme.

As the government was feeling the financial constraint of bearing the costs of the health system, a health financing study was undertaken by the government in 1983 to review the total health financing system in the country and to formulate an appropriate scheme for financing the medical and health services. The study was completed in September 1985. Some of the main recommendations of the study included the creation of a National Health Security Fund; the establishment of a National Health Council for interagency coordination among the various public and private health delivery agencies; the development of group medical practices and health management organisations; selective privatisation of medical and non-medical services; and decentralizing or leasing out some of the general and district hospitals. However, only some of the recommendations were considered which did not change the status quo significantly which were the less radical administrative reforms rather than structural reforms such as formulation of training programmes and review of schemes of service for health personnel which were

implemented in the 5MP. In other words, the government was very careful not make any drastic changes to the current system.

At the same time, some non-medical services that could be considered for privatisation were identified during this plan period to flow with the government strategy for corporatisation and privatisation of government interests and services. The government announced the Privatisation Programme in 1983, published the Guidelines on Privatisation in 1985 and finally released the Privatisation Master Plan in 1991. The private sector was also expected to play a more active role in the provision of medical and health services to the community which was in line with the government's policy of Malaysia Incorporated. Private medical practices and private hospitals were growing rapidly in the urban areas during this plan period due to the support from the government and the growing economy.

### ***3.4 Fifth Malaysia Plan 1986-1990 (5MP)***

There were not many changes from the previous plans in the 5MP. Preventive, promotive and curative care was further consolidated especially in the rural areas to improve health status of the population which was in line with the national policy and the attainment of *Health for All by the Year 2000*. The 5MP called for greater involvement of the community in health care and more concerted effort to improve inter-sectoral and inter-agency co-ordination and collaboration on health and health related activities. States with greater health care needs like Kelantan, Terengganu, Sabah and Sarawak were channeled appropriate health services to achieve more equitable allocation of resources amongst the different states. This plan also called for a National Health Plan to be worked out by all the

various health and health related agencies, public and private, to ensure optimum utilisation and cost-effectiveness of health care resources. This was also an attempt to reduce the financial burden on the government. At the same time, during the plan period, the government became more involved with the private sector after the Guidelines to Privatization was issued and later the Privatisation Master Plan was implemented.

During this plan period, further studies were carried out on the recommendations made by the Health Services Financing Study such as the establishment of the National Health Security Fund and user-fee collection mechanisms. Besides this, the government also studied the possibility of corporatising the public hospitals as an alternative to relieve the financial burden of the public sector as well as to increase efficiency. The development of managed care organizations (MCOs) was encouraged by the government so as to allow alternative methods of financing, to complement the public sector and to increase private sector participation in the provision and financing of health care. It was not surprising that during this plan period, private health care grew significantly with private health facilities increasing from 118 in 1983 to 192 in 1990 and most of them located in urban areas.

Rural health services continued to improve coverage and increase accessibility in the rural areas. Priority was given to provide and upgrade facilities especially in the poorer states to reduce disparity among the states. As more facilities were built, the efficiency of the health sector was hampered by problems of the outflow of doctors and specialists to the private sector which affected the allocation of manpower to the rural areas. Although measures were taken by the government to encourage them to remain by giving them incentives and provided more training facilities and opportunities, the manpower issue was



not properly addressed by the government. This was clearly reflected in the low allocation of development expenditure for training, for example in 1989 and 1990 training was allocated 1.48 percent and 1.42 percent of the total development budget for health respectively.

The shortage of manpower became almost a perpetual issue in the health sector and affected both the equitable distribution of manpower and the efficiency of the public health sector. This problem resulted in the unbalanced distribution of doctors and other health professionals between the urban and rural areas. The government began recruiting foreign doctors on contract, increased intake of medical students in local universities and also began utilizing services of retired health personnel to help ease the problem but the number was still insufficient to meet the demand.

The original development expenditure for the 5MP was RM697.88 million of which 54.1 percent went to patient care services, 33.65 percent went to public health services and training took up only 0.46 percent. Allocation for rural health service increased from 25.77 percent to 32.69 percent of the total allocation. Finally at the end of the 5MP the initial development allocation was increased to RM981 million of which RM931 million was spent. Patient care spent 73.2 percent, public health service 20.0 percent and training 0.01 percent. Rural health services spent 19.44 percent of the budget. The extremely low development allocation for training during this plan compared to the previous plans indicated that the government's priority was on building and upgrading physical facilities rather than increasing manpower supply.

The 5MP was implemented during the economic recession in the mid 1980s and the government made some budgetary restrictions and controls to curb overspending. The government realised the limited financial capacity of the public sector and emphasis shifted to more efficient use of existing hospital resources. The plan also proposed some cost containment measures such as prudent resource planning, efficient deployment of manpower and facilities as well as suggesting co-payment by those who could afford. At the same time the emphasis on improving coverage of rural health service among the states remained a priority. The desire to contain cost was not to be done at the expense of the rural health services.

The mid-term review of the 5MP stated that due to such constraints, training and recruitment of health personnel for the rural areas were hampered. Yet, on the other hand, despite the recession, 97 health clinics, 187 rural health clinics and two district hospitals were completed including various upgrading work. Among the health programmes, curative services were given high priority with the expansion of more specialist services. This was clearly reflected in the high expenditure for patient care services with the buying of high technological equipment such as computerized tomography and other biomedical equipment as almost six percent of the total development expenditure went to acquiring such equipment for the general hospitals.

The mid-term review of the 5MP mentioned that the coverage of health services achieved 93 percent in Peninsular Malaysia and 60 percent in Sabah and Sarawak by 1988 but it did not specify what was meant by coverage in the report. However, there remained a disparity in terms of accessibility of health care services amongst the different states in

Peninsular Malaysia and East Malaysia, and this disparity was partly due to the unbalanced distribution of manpower amongst these two regions.

The government was addressing the issue of sustainability by looking at different methods of financing of healthcare. A number of feasibility studies were carried out during this plan period. Among these were a detailed feasibility study on the establishment of a National Health Security Fund (NHSF), a study to evaluate the viability of privatising the management of the National Heart Institute which were under construction at that time, a National Health Plan study to identify and mobilize various health resources, a study on the establishment of a National Health Council, and a feasibility study to corporatise all the general hospitals. Some of these studies were carried forward to the next plan. Much of what the government aspired to do in terms of cost containment measures was not implemented. The government did not make any firm commitment to alter or reform the present health system.

### ***3.5 Sixth Malaysia Plan 1991-1995 (6MP)***

The objective of *Health for All by the Year 2000* and greater accessibility to health services for the population continued as strategies to strengthen the services at the district level. The 6MP was given an allocation which was more than double that of the 5MP, amounting to RM2,253 million as compared to RM981 million in the previous plan. Many of the development projects which were not completed in the 5MP were brought forward into the 6MP. The construction of 33 new hospitals, 170 health centres, 464 rural clinics

and upgrading of 94 health facilities including the National Heart Institute and the purchase of equipment for these facilities became the priority.

The government being aware of the problem of overcrowding and congestion at general hospitals, began implementing measures to reduce congestion by developing more day-care services, low-risk birthing centres supported by home care nursing and decentralising urban polyclinics. Basic specialised services were also decentralised to the district hospitals to ease congestion as well as to provide equitable services to the districts. It was obvious that more concerted effort was put in to reduce the congestion during this plan period. At the same time, hospital facilities were upgraded with a total sum of RM704 million allocated for it. Therefore in essence, the government was vigorously promoting the high cost of hospital care rather than primary care with more expansion on specialist services. More new district hospitals were built. The expansion of district hospitals in smaller towns did not ease congestion in general hospitals which were situated in main cities.

Preventive health services continued to be strengthened as a measure to reduce future expenditure on curative care. During this plan, the Ministry of Health launched a six-year healthy lifestyle campaign programme beginning in 1991 to inculcate healthy lifestyle habits as part of its health education and health promotion programme. Environment and sanitation programmes, applied food and nutrition programmes, and immunization programmes increased in coverage and were more targeted. A RM10 million budget was allocated for the upgrading of the Public Health Institute along with all its training centres in the country. The Institute for Occupational Health and Safety which was

proposed in the last plan was constructed in this plan and completed in 1992. One milestone for occupational health was the formulation of the Occupational Safety and Health Act, 1993 which placed the overall responsibility for the safety and health of workers on the employers. Dental services were developed to provide services to economically disadvantaged population groups to ensure an overall balanced provision of dental care in the country.

Other developments included the upgrading of the National Pharmaceutical Control Laboratory at a cost of RM13 million and the setting up of a teaching hospital in Cheras. A total of RM59.8 million was given for bio-medical research on various aspects of health and health related problems under the programme of Intensification of Research on Priority Areas (IRPA) and expanding the research on communicable diseases as well as non-communicable diseases.

The government encouraged the provision of health services by the private sector for those who could afford to pay. The role of the government in this respect was not very clearly stated except to coordinate the rapid growth of the private sector to ensure equitable distribution of private facilities. However, this was not done in practice. By 1992, there were 199 private hospitals providing 13.3 percent or 5,400 beds of the total number of beds in the country, most of which were concentrated in the urban areas.

In line with the government policy of privatisation and corporatisation, the National Heart Institute was corporatised in September 1992, the Medical Store was corporatised in 1993 and security services were privatised at certain hospitals. Other non-medical services

were being considered for privatisation. Fifty percent of the IJN patients were low-income patients subsidized by the government. The privatisation policy did not help much in cost containment as there was no incentive to lower cost as privatised companies were out to make profits. One strategy to lessen the government burden was to increase fee charges but this only applied to foreigners. With effect from January 1994, during the 6MP, higher fees were imposed on foreigners for outpatient treatments, ward charges, investigations and in-patient treatments<sup>231</sup> and another revision again in 2003<sup>232</sup>.

The National Health Plan study which was commissioned in the last plan was to be completed in 1992. The NHSF study was further reviewed to ascertain the advantages and disadvantages of the proposed scheme compared with the existing system of financing health care in Malaysia. The proposal of the establishment of the National Health Council was brought up again in this plan. It was mentioned that a master plan was required to facilitate an orderly development and to ensure an equitable distribution of health resources between the urban and the rural areas. Somehow, the National Health Council was not set up.

There were some improvements in the planning of health manpower as the government targeted producing 2,000 doctors locally and 500 doctors overseas. More foreign doctors and specialists were recruited. Besides doctors, 5,295 nurses, 800 laboratory technologists, 2,100 medical assistants, 250 occupational therapists, 630 pharmacist assistants, 250 physiotherapists and 520 health inspectors were expected to be

---

<sup>231</sup> The Fee Act 1951, Fees (Medical) (Amendment) Order (No.2) 1994.

<sup>232</sup> The Fee Act 1951, Fees (Medical) (Amendment) Order 2003.

trained during this plan period. The increase was significant compared to previous plans. The private sector was also encouraged to increase their training capacities. Five private hospitals provided training for nurses. Private physicians and surgeons were also encouraged to work on a part-time basis and to utilize public facilities to meet the shortages. Private anesthetists were employed on sessional basis. Despite these various efforts done by the government, the public health sector still faced a shortage in health manpower.

The review of the development allocation showed that there was an increase in the allocation under the 6MP from the initial allocation RM2,253 million to RM2,498.4 million out of which RM2,351.7 million was spent. Of the total amount spent, 82.6 percent went to patient care services which amounted to RM1,943.2 million, 11.9 percent or RM280.2 million was spent on public health service of which rural health service took only 5.23 percent of the total development expenditure. The development expenditure for the public health sector for the 6MP clearly reflected the intention of the government to expand hospital services rather than public health service. During the 6MP period, 31 hospitals were built out of which 11 were replacement hospitals, the provision of upgraded services and provision of modern diagnostic equipment such as MRI, CT scan, mammography equipment, echo cardiographs and stress test equipment at selected hospitals. Public health services in the rural areas only had 29 new health centres and seven rural clinics.

### ***3.6 Seventh Malaysia Plan 1996-2000 (7MP)***

The priority in the health sector seemed to have shifted slightly from promoting equity and wider coverage of the rural health service through increased health facilities to the improvement of health status of the population through health promotion campaigns and preventive care in the 7MP. Emphasis was given to the promotion and dissemination of information to the communities through health education, healthy lifestyle campaigns and programmes, community based programmes and mass media. The yearly thematic healthy lifestyle programmes focused on preventive care such as healthy diet and nutrition (1997), exercise and fitness (1998), safety at home and the work place, and road safety (1999) and mental health (2000).

Accessibility by the lower income groups in the rural areas continued to be the main focus but the emphasis changed in form through advocating more health awareness among the rural population and the population at large. Public health activities expanded further incorporating new vaccinations such as hepatitis B in its immunization programme. Control of communicable diseases remained a priority in reducing diseases such as tuberculosis, malaria, dengue and AIDS. A National Blood Service Centre was constructed under this plan and blood transfusion facilities upgraded in various states and teaching hospitals. Other preventive programmes such as the nutrition intervention programme under the National Plan of Action on Nutrition and environmental health through safe water supply and sanitation were stepped up in its coverage.

A programme for the elderly which included further development of geriatric care, rehabilitative and community services was implemented under this plan. During this plan, the outpatient departments of all general and district hospitals were decentralised to the



district health office at the primary care level operating as one of its health clinics. The scope of the family health programme at the primary care level also expanded with the introduction of family medicine specialist services in 1997 for early detection of diseases and the provision of appropriate management of patients. This reduced much unnecessary referrals and also congestion at the specialists' outpatient clinics.

An Infectious Disease Centre was started in 1999 with the upgrading of the Disease Surveillance Unit in the Ministry of Health, the Infectious Disease Research Centre in the Institute of Medical Research and the National Public Health Laboratory in Sungai Buloh due to the outbreak of the infectious disease, the Nipah virus. The experience from this outbreak was the collaboration of efforts established through inter-ministerial committees and networking with international bodies such as the World Health Organisation and the Control of Disease Centre in Atlanta.

Curative health services continued to expand with construction of 33 new hospitals and upgrading of existing ones. Two of them were the information technology (IT) based specialist hospitals or what is known as the paperless hospitals in Selayang and Putrajaya. Six others incorporated the computerized total health information system while 37 small and medium sized hospitals incorporated the computerised health information system. In order to facilitate the development of IT in the health sector, the Telemedicine Act was enacted in 1997 to regulate and control the practice of telemedicine. Besides this, the diagnostic and support facilities such as imaging, pathology and hematology services were further improved. The National Blood Centre was established in 2000, blood transfusion units were upgraded in all state hospitals. High technology medical equipment such as

bone densitometer, magnetic resonance imaging and computerised tomography scanners were purchased for selected hospitals. The scope of curative care also expanded during this plan to include a wide range of rehabilitative care as well as care for the elderly.

According to the 7MP, in line with the policy of decentralization of general outpatient services from the hospitals to the urban community, the MOH will take over in phases the health and health related functions of the local authorities and to establish more health clinics which will provide comprehensive health care services. This was the only structural change that was seen during this plan as the local authorities were unable to provide effective services or expand their scope due to lack of health manpower and financial constraints. The effort was to consolidate the urban health care services. By the end of 7MP, 52 out of 146 local authorities had already transferred their functions to MOH.

During this plan period, 37 health centres and 86 rural clinics were constructed and 49 health centres in the rural areas were upgraded with diagnostic facilities and trained manpower. The government was not only building more facilities but also expanding medical and health programmes through its primary health care services with better equipment. Expanded services also included alternative birth centres and day-care facilities.

One very obvious development during the 7MP was the expansion of the private health sector. By 1999 there were 225 hospitals and 9,098 beds whereas the public sector had 127 hospitals and 34,000 beds. 97.8 percent of all private hospitals were located in urban areas and this created an unequal distribution of medical services between the rural

and urban areas for more sophisticated private care. The Private Healthcare Facilities and Services Act was enacted in 1998 to regulate these private hospitals and practices to ensure that standards and quality of care was maintained and to rationalise user-fee charges to more affordable level. With the 1998 Act, MOH expanded its role and responsibility in regulating the private health care providers through licensing, quality assurance and standard setting. However, this Act did not come into effect until May 2006.

The bulk of the privatisation programme took off when five support services were privatised in 1996 which included hospital cleansing, clinical waste management, bio-medical equipment maintenance, facility maintenance as well as linen and laundry services. Three concessionary companies were awarded the contract according to zone and each company was given a 15-year contract to provide these services. The medical screening of foreign workers was privatised in 1997. Other forms of privatisation included utilisation of private sector facilities, where appropriate to optimise the use of available resources, for example, the use of radiotherapy services and contracting of private specialists to work in public hospitals. The purpose of privatization as mentioned in the 7MP was to increase the efficiency of hospital services.

The issue of manpower shortage had not been solved effectively even though efforts were made. These efforts include increasing the number of students into medical faculties every year, providing more scholarships for degree and post-graduate programmes and encouraging the private sector to establish medical colleges including twinning programmes. Foreign doctors, specialists and nurses were also recruited to meet these shortages.

During this plan period, two major studies were completed; the National Household Health Expenditure Survey 1996 (NHHES) and the Second National Health Morbidity Survey 1996 (NHMS2). These two surveys were very useful for health planners as their findings showed the patterns of health care spending by the public, the utilisation patterns of the health services and so on. Such surveys provided important inputs to planners of the demands and the burden of health care costs on the public.

Allocation for health in this plan amounted to RM2,650 million and later revised to RM3,737.1 million, out of which RM3,725.5 million had been spent. Out of the amount spent, 70.86 percent or RM2,640 million went to patient care services, 24.63 percent or RM917.91 million went to public health service and training spent 4.36 percent or RM162 million of the total health service development expenditure. During this plan period for the first and only time it was reported that urban health services and rural health services spent almost an equal share of the development budget at 12.24 percent and 12.01 percent respectively. Besides this, there were no other changes in terms of the pattern of development expenditure for the 7MP compared to all the previous plans as emphasis was placed on expansion of hospital facilities and health facilities.

### ***3.7 Eighth Malaysia Plan 2001-2005 (8MP)***

Briefly, the prospects for health in the 8MP were almost similar to the 7MP. The focus of development was to further improve the health status of the population, especially the low-income groups. Emphasis was given to preventive and promotive health services. Under the rural health programme, the government continued with the construction of new

primary health care clinics and upgrading old ones. Twelve out of 172 new health and community clinics were completed and 304 existing clinics were upgraded and renovated to provide comprehensive care.

Medical care services continued to support the primary care services. Specialists' services were also expanded in scope included centres of excellence for cardio-thoracic surgery, radiotherapy, oncology and nuclear medicine, nephrology and urology services. New IT-based hospitals continued to be built to support the implementation of a tele-health network. New multidisciplinary and self-contained ambulatory care centres were built in selected hospitals to ensure optimum utilisation of diagnostic and therapeutic support services.

In this plan, more rural and urban health clinics were constructed and the scope of services expanded. Selected clinics were equipped with a tele-primary healthcare network connected to state and district hospitals to facilitate tele-consultation and access to specialised diagnostic services as well as to make quick reference to pharmacology divisions in the hospitals. Parallel to the provision of health care by the public sector, the private sector played a complementary role.

Intakes of medical trainees in both public and private colleges continued to increase to meet the shortages. The plan also mentioned that the government would undertake measures to retain the health personnel to prevent them leaving the service.

Two distinct new developments in this plan were the promotion of health tourism and instituting national health accounts for the health sector.

The total development allocation for health in this plan was \$5,500 million, an increase of 47.3 percent compared with the 7MP, of which 75.8 percent was allocated to patient care services, 18.55 percent to public health services and training received 5.18 percent. Urban and rural health services were allocated 5.56 percent and 12.8 percent respectively. The pattern went back to the plans prior to the 7MP. This clearly showed that only at the 7MP was the government responsive to the urban health care needs as shown earlier by the congestions in public general hospitals which were all situated in all the capital cities of the different states.

#### **4. Brief analysis of the problems faced by the Malaysian health care system**

The review of the historical background and an overview of the development of healthcare from the 2MP to the current 8MP clearly explain how the present Malaysia health care was shaped. Very briefly, there were important periods of development that had very much shaped and formed the direction of health care and influence the priorities in health.

There were three distinct periods which could be easily divided into three broad phases of health care development. The first phase would be from the FFYP to the 1MP, which reflected very much the influence from the colonial masters as discussed in Chapter Two. Although much of their pursuits were to serve their own economic and political

interest, one cannot deny that the impact had a lasting effect. This effect was not all positive in the initial years after Independence as health was given low priority. Social services which included health accounted for only a quarter of capital expenditure in the DDP and further accounted for less than one-tenth in the revised plan. Health, as a component of social services received much less compared to the more productive economic sector. Capital expenditure in the health sector was insufficient to meet the need of health services of the rural population.

The post-colonial government in the 1950s and 1960s recognised the social sector as important to national development and had tried to narrow the gap through the improved Rural Health Service but the rectification did not happen overnight and it took many years for the government to correct the imbalances that existed before Independence.

The Malaysian experience demonstrated that if emphasis was given to only a certain sector, it would eventually create inequality in development and thus an imbalanced economy and inequality in society. When the gap widened, it resulted in certain groups being deprived and set aside from the main flow of development. Eventually when distribution of income within the country became more unequal, it would result in greater inequalities in health. According to Cumper, correlations between different countries suggested that infant mortality tended to be higher where the distribution of income was more unequal.<sup>233</sup>

---

<sup>233</sup> Cumper, 1983, pg. 9.

These imbalances took more than 40 years for the present government to rectify and they are still working on it although much has been accomplished. Corresponding to this was that the majority of the rural population were Malays and they were economically weaker compared to the more wealthy urban population who were predominantly the Chinese community. There was a distinct segregation of the population according to their level of income, race and place of residence whether urban or rural. The 1969 incident opened the eyes of the government to take serious measures to address the imbalance and inequity between the rich and the poor which could easily be identified by race. Hence, Malaysia underwent a major social and political upheaval and that began the second phase of development where all emphasis and priorities were directed to meet the objectives of the NEP from the 2MP to the 5MP. Resources were heavily concentrated in the underdeveloped rural areas.

In the 1970s, social and welfare development were no longer regarded as second to economic development. The deprived groups were singled out and given special attention, equity became a priority to eliminate inequalities and promote a balanced development. Health was taken to be part of human welfare. Most of the five-year development plans after 1970 reflected this trend as governments were willing to increase expenditure on health care. Priorities and emphasis were given to the provision of health services to the rural areas to attain a more equitable distribution of health resources. Health programmes whether preventive, promotive or curative were also focused on the needs of the rural population groups.



The reform of switching from a three tier system to a two tier system was one of the ways to expanding the provision of health care to the rural areas. In 1960, there were only 25 rural health facilities but by 1980 rural health facilities had increased to 1731. The government was very ambitious at achieving this target and therefore, primary healthcare experienced expansion in terms of health facilities and at the same combining a wide range of curative, preventive, promotive and rehabilitative care in the delivery of its health services. The goal was to provide basic maternal and child health services to the rural areas and to widen its coverage to the remote locations as much as they could to build and deliver. However, this created a serious problem as human resources were insufficient to support the physical growth and expansion.

There was an acute shortage of health personnel from doctors right to all the other allied health personnel. The training of these health personnel to operate the health facilities took a longer gestation period than the construction of physical buildings. Planning for physical facilities did not match with the planning for manpower supply. The development budget allocated for training also did not reflect that the government was serious in generating adequate manpower for its expanding facilities. See Table 3.3 below. Almost in all the plans the development allocation for training was less than seven percent and in the 4MP it was only 0.01 percent of the total allocation.

**Table 3.3: Summary of 2MP to 8MP**

	2MP	3MP	4MP	5MP	6MP	7MP	8MP
Main Thrusts	Expansion of medical & health services in both rural and urban areas	Same as 2MP	Same as 2MP Focus on rural health services	Same as 4MP	Health for All Greater accessibility to health services for the population	Improvement of health status of population	Same as 7MP
Main Aim	To achieve a balanced distribution of services with emphasis on rural health services	Same as 2MP	Consolidating rural health services	Improve coverage of rural health services among the states	Same as 4MP	Improve accessibility by lower income groups in rural areas	Same as 7MP
Main Strategy/ Targets	Extending coverage to more remote areas Conversion of 3-tier to 2-tier system	3-tier to 2-tier 2 acute beds per 1000 population 1 hospital for every district	3-tier to 2-tier Integrated approach Privatisation Development of hyper specialty services	Same as 4MP	Privatisation Development of IT in the health sector	High tech. equipment Expanded scope of curative care	Same as 7MP
Main Problems	Shortage of manpower	Same as 2MP Under-utilisation of small district hospitals Congestion in general hospitals	Same as 3MP	Same as 3MP Unbalanced Distribution of personnel between urban and rural areas	Same as 5MP	Same as 5MP	Same as 5MP

*Source: extracted from the respective Malaysia Plans.*

Health care development continued to expand and the government was beginning to feel the pinch from the allocation of resources especially when the world plunged into an economic crisis from 1981 to 1983 and rates of world economic growth declined.<sup>234</sup> The Malaysian government announced an austerity drive in June 1982 cutting down

<sup>234</sup> Abel Smith B., Health Policy Plan, 1986 Sept; 1(3):202-13

government expenditure<sup>235</sup> and subsequently the sharp drop in oil prices in the early 1986 to below US\$10 per barrel forced a drastic downward revision of growth targets and public sector investments.<sup>236</sup> Public sector expenditure's share of the GDP declined below 70 percent after 1982 before rising again in 1988.<sup>237</sup> Public expenditure was cut and more often than not, the social services sector became the victims, mainly health and education. The crisis had two impacts on developed countries; they became acutely concerned about the rising cost of health care and searched for means of containing them. Health budgets were sharply declining and some countries had to look for additional resources from within the country whether through charging for the services or by developing different forms of community financing or introducing compulsory health insurance. Many were seeking alternative ways of financing to ease the public burden. This was also the period which saw the emerging of the private sector and the rise of privatization in health care.

The late 1980s and 1990s saw the shift in attitude regarding the role of government and the increased role of the private sector both in the health sector and other sectors of the economy. Developments were no longer confined to what governments do but a combined effort of the public and the private sector. Malaysia also followed the tide when the government began privatizing its public entities which included the public health sector.

As the world economy picked up after the economic slowdown in the 1980s, income continued to increase and there were further expansions such as development of technologies, more effective treatments, wider scope of surgery techniques; larger range of

---

<sup>235</sup> Jomo KS., 1990, pg. 171

<sup>236</sup> Jomo KS., 1999, pg. 94

<sup>237</sup> Jomo KS., 1990, pg. 171

drugs and new diagnostic equipments were developed to assist the task of diagnosis and treatments which were costly. The amount countries spent on health varies according to their level on income, the general trend was that the richer the country, the higher it spends although there will be some countries which spend more or less than what might be expected for their level of income.<sup>238</sup> As income increases, development continues to expand and this was demonstrated in the third phase of development in the Malaysian health care system.

The third phase from the 6MP to the 7MP was the most dynamic and challenging phase. The emphasis was on expanding the scope, upgrading of facilities and more quality services, through optimising utilisation by having a good referral system; having a comprehensive health services network; more specialist care; high technology diagnostic equipment; increased community participation and inter-agency collaboration; more privatisation and corporatisation of medical health services; and a growing private healthcare.

In the early 1990s the attention of the policymakers had appeared to have been directed towards alternative ways of financing the health system. In Malaysia, the financing of the healthcare delivery system relied on global budgeting based on the revenue received by the government through various taxes, revenues and incomes earned by the government corporatised enterprises. This followed a historical pattern started by the British which was predominantly tax-based, although there were some other minor sources of financing through private insurance, managed care and savings, either out-of-pocket or

---

<sup>238</sup> Abel Smith, 1994, pg.151.

from the Employees Provident Fund. Since the NEP to the NDP, the financing mechanism had not changed but healthcare delivery priorities had gradually changed its emphasis and healthcare expenditure in Malaysia had been rising continuously.

The financial burden was felt after the recession in the mid 80s and it became more prominent during the financial crisis years in the late 90s. The healthcare system was indirectly being forced to consider other alternatives of financing, as the government began considering and weighing the opportunity costs of denying other sectors, all competing for the limited resources.

This phase also saw the progressive advancement and development of information technology in the healthcare system. Tele-health has been identified as the key enabler to transform Malaysia's health care system into realising the Vision for Health to facilitate the provision of a seamless care which was a continuum of care from the tertiary through secondary and primary level. Its purpose was to facilitate the integration of various health services and programmes from promotive, preventive, curative and rehabilitative. The Telemedicine Act 1997 provided the regulatory support as well as enforcement measures to ensure the system was secure and would not expose the patients' confidentiality.

At present all newly constructed hospitals are equipped with either total health information system or health information system, thus creating a network that could tele-consult between the different levels of care and between different facilities and also to allow the flow of information to be captured without interruption or delay. Information technology is always changing and advancing, if it was put to proper use much can be

achieved but the problem is such technology must not just remain an application to be adopted but it should be part of the work culture in order to see the real impact and benefit to the system. Are we really moving towards this end? Related to this is health technology. Equipment that is of high technology is very costly and if they are poorly planned and managed, they could have an effect on the entire financial structure of the health services system. The cost of providing these technologies increases every year and also the cost of training highly specialised personnel to operate these machines. The issue of cost effectiveness then arises.

Last but not least is the issue of quality care. There are a number of quality initiatives that were introduced by the government, some of which comes with attractive rewards for achieving its goals or targets. Quality is a very broad area and can be analysed through different perspectives. The issue here is not which perspective should be adopted but rather the context of the delivery of health services such as long waiting time and congestion.

## **5. Conclusion**

From the brief overview of the development of the Malaysian health plans, the main thrust of the health plans in the first five year development plans was all the same from 2MP to 6MP which was the expansion of medical and health services in both the rural and urban areas with rural health service as the priority. The main aim was also similar which was to achieve a balanced distribution of health services to improve coverage and accessibility. From 6MP to 8MP the thrust remained the same but the emphasis shifted to

improvement of health status of the population as a whole. Improving the rural areas still remained the focus and strategies also did not change much as expansion of rural health services and the development of hospital services especially subspecialty services were their focus. A lot of emphasis was placed on physical development and expansion in scope of services which have great financial implications. The privatisation policy from 4MP onwards has also increase health care costs.

There were two main issues that seemed to be popping up in all the plans. One of which was the perpetual shortage of health manpower and the other was the imbalance distribution of resources whether it was finance, physical, manpower or services. In almost every national development plan, it was mentioned in their reports of the disparities of distribution of resources between the urban and the rural areas, between different states and also regions. The primary health care services had been restructured and extensive capital had been invested to construct new clinics and hospitals in every district indicating that the Malaysian health care delivery system has good coverage. The continuous physical development of health infrastructure was not matched with adequate manpower to operate them. Besides the shortage issue, the problem became more complicated with the unbalance distribution issue among the different areas, states and region. Another issue that came forth from the 5MP onwards was the issue of rising health care costs.

There was no indication in all the health plans that any analysis was done to evaluate whether the targets set were achieved. There was also no mention of any analysis done on the healthcare needs of the population as well as evaluation on the provision and distribution of the health care resources. The criteria for the provision of health care were

more than just equity in terms of distribution of healthcare resources. Besides the focus on promoting an equitable distribution of healthcare resources on the supply side for better access and coverage, other issues like efficiency, effectiveness, quality and the other forms of equity were not adequately considered.

In certain years, there were some shortfalls in the capital expenditure allocated. This shortfall was as high as 45.1 percent in 1987 and 45.2 percent in 1988 during the 5MP. Although subsequently there were improvements, the shortfall still existed. The performance of the system was not evaluated to see why the shortfall existed and how the problem could be rectified. Changes over the years such as the migration of rural population to the urban towns were not adequately considered. Congestions were created in state hospitals as well as urban health clinics while there was under utilisation of the rural health services and small district hospitals.

The government was already aware of the congestion that existed in all the outpatient department of the general hospitals as stated in the 4MP but the public health system was not responsive to the need of the population as clearly shown in the overcrowding and congestion. It was only in the 7MP that a larger proportion was spent on urban health services but for the rest of the Malaysian plans, emphasis was still given to rural health services in terms of development expenditure. It was also recorded in the mid-term review of the 4MP that bed occupancy rate for Pekan district hospitals went as low as 26.1 percent whereas the Kuala Lumpur general hospital recorded 89.1 percent occupied. The under utilisation of small district hospitals was due to the absence of specialists as well as the limited number of experienced medical officers and diagnostic facilities. Patients



preferred to seek treatment at large district hospitals or general hospitals. This was the demand of the Malaysian population at large.

During the 2MP and the 3MP, emphasis was on expansion of district hospitals irregardless of very low occupancy rates. The target was one hospital for every district but after a decade, the problem faced was that the public were crowding at general hospitals and small district hospitals were underutilized. This was an allocative inefficiency issue.

The health plan as reiterated in the health chapters of the five-year development plans were broadly stated, sometimes in very vague and immeasurable terms. The statements on health policies, objectives and strategies were activity orientated, without much targeting and highlighting the specific problem area to be rectified. There was lack of targeting directly to specific groups. Even the achievements and success of the implementation of the various strategies were also reported in very general terms void of much trend line statistics to show the overall improvement. The achievements mentioned were very programme oriented and there was no critical review or evaluation on the effectiveness of the programmes implemented. This rhetoric statement of policy, objectives and strategies were typical of most five-year plans.

An interesting observation was that the main thrust of the public health sector which was to improve coverage and to have a more balanced distribution of health care services for the population was repeatedly mentioned in all the five-year plans with so much zeal to conform to the goals of the national policy, and yet in every plan there seemed to be an unresolved issue throughout the thirty-year period excluding those prior to 1970. It was as

though the government was always trying to fulfill the goals but never seemed to have accomplished them. The general target was focused on coverage and the distribution of the rural health facilities but there was no comparison made from plan to plan as to what had been achieved in each plan and what areas were to be targeted for the next plan for further improvement. Successes were only from the resource input or supply point of view but other criteria such as disease burden were not adequately considered.

There was no clear time-trend statistics to show how much has been done according to what was planned and the duration expected to achieve the results was also not mentioned. The strategies for the improvement of the public health sector were activity and programme based. Although there was a substantial increase in health allocation from plan to plan, there was little mention of the eventual consequence of the expansion: the rising cost.

From Table 3.4 below, the intention of the government was clearly stated in the health chapters of the five-year development plans. Despite the number of studies conducted from the mid-term review of the 4MP to the 8MP for a period covering almost twenty years, the government has not made any decision on having a definite alternative financing scheme until April 2005 when the government announced undertaking a study for a proposed national health insurance (NHI) scheme for the country which they hoped would be implemented in two years.

The question now is whether the government needs to change the whole financing system in order to have greater and quicker access and whether there is a need to integrate

the public and the private health care; although for some years now the government has been hovering over the decision of whether to have a new NHFS.

From the mid-term review of the 4MP to the present 8MP many proposals and recommendations were made as follows:-

<b>Table 3.4: Proposals by the Government of Malaysia by Plan Period</b>	
<b><u>Malaysia Plan (MP)</u></b>	<b><u>Proposals by the Government and Studies undertaken</u></b>
Mid-term Review 4MP (1981-1985)	A health services financing (HSFS) study to be undertaken. <b>1985</b> - ADB, Health Services Financing Study (HSFS), Final Report, Westinghouse Overseas Service Corporation
5MP (1986-1990)	Some recommendations of the HSFS study to be implemented. Study on establishment of the National Health Security Fund (NHSF)
Mid-term Review 5MP (1986-1990)	Detailed feasibility study on NHSF and the establishment of the National Health Council. <b>1989</b> – ADB, National Health Security Fund Study (NHSF), Phase II, Final Report, Birch & Davis International Inc. <b>1989</b> – Study of the National Health Council <b>1990</b> – Legal Implications of establishing NHSF.
6MP (1991-1995)	A study on National Health Plan to be undertaken. <b>1991</b> – Response by Independent Consultant, Dr. Malcolm G. Taylor on the ADB Consultancy on NHSF. <b>1992</b> – Response by Independent Consultant, Dr. Paul Gross on the ADB Consultancy on NHSF. <b>1993</b> – National Health Plan Study, ADB Final Report Volume 1.
7MP (1996-2000)	Corporatisation and privatization of hospital and medical services to be undertaken. A health financing scheme to meet health care costs to be implemented. <b>1995-1996</b> – Study on the corporatisation of 14 general hospitals by Rashid Hussein Berhad.
8MP (2001-2005)	Cost sharing concept through health financing schemes will be introduced.

As shown above that the proposal of an alternative financing scheme was repeated from the 4MP to the 8MP, a total period of 25 years and nothing has been done. The various plans also did not state the reason for the postponement. However, in the 8MP it was clearly stated that:

“Cost-sharing concepts through health care financing schemes will be introduced to provide consumers with a wider choice in the purchase of health services from both the public and private sectors. In this regard, a suitable mechanism to institute and manage a health care financing scheme will be implemented.”<sup>239</sup>

Therefore, the government has finally indicated a clear intention to implement a new health service-financing scheme to replace the present system. Whether this new financing scheme will be put in place is yet to be seen. The real issue is not about having a new financing scheme but whether the present system is equitable, efficient and performing at its optimal level.

In conclusion, macro health planning in Malaysia as reiterated in the health chapters of national development plans were influenced by the objectives of national plans. The expectations, aspirations and intention of the government in the health plans were well written but they failed to measure its effectiveness as there was gross lacking of statistics to give a good evaluation or analysis of the achievement for one plan to another.

---

<sup>239</sup> Eighth Malaysia Plan 2001-2005, pg. 495.

## CHAPTER FOUR

### Issues in Malaysian Health Care System

#### 1. New Economic Policy, New Development Policy and Vision 2020.

In the previous chapter, it was demonstrated that the development of the Malaysian health policies was very much dictated by the overall national development plans. The measuring line of development relied very much in the national development policies. The most significant national policy came after the 1969 racial riots which initiated the 20-year NEP from 1970-1990, followed by NDP from 1991-2000. This thesis will examine closely the development of the health policies vis-à-vis the national policies for the period from 1970 to 2000.

The framework of the NEP was introduced by the Government of Malaysia in 1970 through the OPP1 with the aim of promoting growth with equity and the objective of fostering national unity among the various races. National unity was the ultimate goal of socio-economic development which meant that all aspects of the development and activities must now be responsive to this new economic and social order. Priorities had to be realigned to take full cognisance of the problems and disparities that paralysed the core structure of society. The two-pronged strategies of the NEP to reduce and eventually to eradicate poverty<sup>240</sup> by raising income levels and increasing opportunities for all

---

<sup>240</sup> At the onset of OPP1, about half of the nation's total households (49.3 percent) were in poverty. The

Malaysians irrespective of race; and to correct the imbalances through the process of restructuring society so as to eliminate eventually the identification of race with economic function involved the process of modernisation of rural life and a balanced growth of the urban community. This required a rapidly growing and expanding economy to raise more opportunities as well as to make available substantial resources for development.

All sectors of the economy including the health sector had an important role to play to bring about the necessary condition for national unity and creating a productive labour force to generate incomes, raising the income levels and generating more employment opportunities in order to eradicate poverty and correct the economic imbalances. The contribution to the achievement of national unity was hoped to provide the environment of peace and stability to enable the Government to concentrate on the business of developing the nation and thus generating the necessary resources to bring about the equitable distribution of benefits of development and to improve the standard of living of the population. There was cyclical relationship here that required all sectors to participate in order to bring about this shared benefits of development.

The expansion of the economy under the NEP was to be achieved through a substantial growth in the GNP and a more efficient utilisation of the country's natural, human and capital resources. In these respects, the public sector had an important role to play in initiating growth and at the same time motivating the private sector to play an equally important complementary role to contribute to the attainment of these national

---

largest number of poor households was in the rural areas with the incidence of poverty of 58.7 percent compared to 21.3 percent in the urban areas.

goals. Therefore, the planning and implementation capacity of the government was of utmost importance in bringing about the effective and efficient implementation of its policies and programmes. Economic and social development could not be achieved in a short period of time as it was a continuous process.

The OPP2 reported the achievements as well as the failures of the NEP. The evidence of some of the successes of the NEP was the decline in the incidence of poverty from 49.3 percent in 1970 to 15 percent by end of 1990 which exceeded the target of 16.7 percent. By 2000, the incidence of poverty was further reduced to 7.5 percent. The incidence of poverty among the rural and urban populations had also reduced from 58.7 percent and 21.3 percent to 12.4 percent and to 7.4 percent respectively from 1970 to 2000. The average household income had also improved tremendously as shown in Table 4.1 below.

The number of poor households in Malaysia was also reduced from 1,100,000 households in 1970 to 619,400 households in 1990 with a decrease of 43.7 percent despite an overall increase of households from 2,099,000 to 3,614,600.<sup>241</sup> By the end of OPP2 the number of poor households was further reduced to 351,000<sup>242</sup>, a total reduction of 68 percent in 30 years. In terms of hardcore poverty, i.e. those households receiving less than half of the poverty line income<sup>243</sup>, the number was reduced to about 4 percent of total households. This figure was low by international standards and they also included the

---

<sup>241</sup> The Second Outline Perspective Plan 1991-2000 pg. 9.

<sup>242</sup> The Third Outline Perspective Plan 2001-2010, pg. 50.

<sup>243</sup> For 1990, the poverty line was RM370.00 per month for a household size of 5.1 in Peninsular Malaysia, RM544 for a household size of 5.4 in Sabah and RM452 for a household size of 5.2 in Sarawak.

outliers from the development programmes. Poor households in the rural areas had decreased by half from 1990 to 2000 from 530,300 households to 264,300 households but the decrease was nominal for poor urban households which only had a reduction from 89,100 households to 86,800 households for the same period, which was a reduction of only 2.8 percent.

Although there were some improvements in household incomes, the income gaps among states and ethnic groups were still wide. Terengganu had the highest incidence of poverty at about 31 percent in 1990 while Selangor and Wilayah Persekutuan Kuala Lumpur had less than 10 percent of poor households. Other states such as Kelantan, Kedah, Perak, Sabah and Sarawak were recorded to have high levels of poverty. Poverty was still high in the traditional primary sectors and in the rural areas. *Bumiputeras* (sons of the soil) were still predominant in the rural areas although their share of employment in the manufacturing sector had increased from 28.9 percent in 1970 to 49.1 percent in 2000 but their share in agriculture, forestry, livestock and fisheries remained at 61.6 percent in 2000, a reduction from 66.2 percent in 1970.

There were a total of 64,100 hardcore poor households in the rural villages as well as in the urban cities who should have had access to basic services and amenities, although their percentages were small in relation to the total population. See Table 4.1. Basic health services and facilities were perceived as one of those basic services and amenities that would contribute to the improvement of the quality of life. The states or regions that were provided with these basic services and amenities were more attractive to private investors and eventually they became new growth centres. The government's investments to develop



the poorer states played an important role in contributing to regional development and by improving income levels and living standards it reduced the disparities and any regional imbalances that existed.

**Table 4.1 Socio-economic Indices for 1970, 1990 & 2000**

<b>Year</b>	<b>NEP 1970</b>	<b>NDP 1990</b>	<b>NVP 2000</b>
Population	10.7 million	18 million	22.3 million
Incidence of poverty	52.40%	17.10%	7.50%
Rural	58.70%	21.80%	12.40%
Urban	21.30%	7.50%	7.40%
Incidence of hard core poor		4.00%	1.40%
Rural		5.20%	2.40%
Urban		1.40%	0.50%
Mean monthly household income for Malaysia	RM505	RM1167	RM2472
Peninsula Malaysia	RM264	RM1,163	
Sabah	RM513	RM1,148	
Sarawak	RM427	RM1,208	
No. of poor households	1,100,000	619,400	351,100
Rural		530,300	264,300
Urban		89,100	86,800
Unemployment rate	7.40%	6%	3.1%
Per capita GDP	RM993.6	RM4,392.1	RM6,874.6
Rural Population	73.30%	59.84%	38.04%
Access to healthcare (within 5 kilometres of rural clinics)			
Peninsula Malaysia	71%		95%
Sabah	35%		70%
Sarawak	20%		70%
		<b>1971-1990</b>	<b>1991-2000</b>
Average GDP growth rate		6.70%	7.00%
Average inflation rate		4.60%	2.20%
Average GDP in real purchasing power		6.70%	5.30%
Bumiputera equity share ownership	2.40%	19.30%	19.00%

Source: *Second Outline Perspective Plan 1971-1990*, pgs 9, 27, 32 & 125.

*Third Outline Perspective Plan 1991-2000*, pgs. 50 & 89.

Some of the developments and restructuring strategies resulted in quite satisfactory achievements such as the growth of GDP from six percent in the 60s to 7.5 percent in the 70s, but slowed down to 5.9 percent in the 80s due to world recession. For the whole duration of OPP1 and OPP2, GDP grew at an average of 6.7 percent and seven percent per annum respectively; unemployment rates were reduced from 7.4 percent in 1970 to 6

percent<sup>244</sup> in 1990 and it was further reduced to 3.1 percent in 2000; the average inflation rates for OPP1 and OPP2 were 4.6 percent and 2.2 percent per annum respectively; and the average GDP in real purchasing power for duration of OPP1 and OPP2 were at 6.7 percent and 5.3 percent per annum respectively. See Table 4.1.

However, the process of development was not all that smooth and it was greatly hampered by the mid-eighties recession: for example, GDP was only at 5.9 percent in the eighties and unemployment was the highest at 8.3 percent in 1986. Besides that, there were also certain shortcomings and weaknesses which the Government needed to give further attention, for example, relative poverty or income differentials within certain groups and sectors in the community were a concern although absolute poverty had reduced. Besides that, although generally, levels of income had increased in the rural areas and standards of living had improved, there were groups of population in the poorer states. According to OPP2, high levels of poverty were recorded in the states of Kelantan, Terengganu, Kedah Perak, Sabah and Sarawak<sup>245</sup> and by OPP3, although the incidence of poverty among Malaysians has been reduced to 7.5 percent in from 16.5 percent in 1990<sup>246</sup> but it also indicated there are pockets of poverty in the remote areas and among the *Orang Asli* and other *Bumiputera* minorities in Sabah and Sarawak<sup>247</sup>.

There were also substantial regional imbalances in economic development between states in the country especially between East Malaysia and West Malaysia. Sabah and

---

<sup>244</sup> The estimate of 6 percent includes those who are not actively looking for work and they comprised nearly half of the total unemployed.

<sup>245</sup> OPP2 (1991) pg. 47.

<sup>246</sup> OPP3 (2001) pg. 50.

<sup>247</sup> *ibid*, pg. 12.

Sarawak also were lagging behind in terms of physical infrastructure and improved socio-economic conditions. Besides regional imbalances, there were also ethnic inequalities in income. The majority of the poor were from Malay and other indigenous groups, known as the *Bumiputeras*. The *Bumiputera* community which was largely from the agricultural sector and the most deprived community in 1970 had their share of employment in the manufacturing and industrial sectors increased quite substantially, but their number in the agricultural sector still remained high<sup>248</sup>. They were also lowly represented in managerial and supervisory levels in the manufacturing and services sectors. Although there was an increase in *Bumiputera* entrepreneurs, creating a *Bumiputera* commercial and industrial community they make up only a small proportion of the total entrepreneurs. Many of them were badly affected during the recession in the eighties where about 40 percent of them were declared bankrupt. The share of *Bumiputeras* in the ownership of share capital increased from 2.4 percent in 1970 to 19.3 percent in 1990 and fell back to 19.1 percent in 2000.<sup>249</sup>

One of the distinctive results of NEP was the increased role and size of the public sector. In the seventies and eighties, there was the creation of a large number of government owned statutory bodies and non-financial public enterprises, many of which were operating with losses especially during the recession in the mid-eighties. In order to improve the efficiency of the economy, the private sector was also encouraged to take a bigger role in stimulating the economy to become more efficient and competitive through

---

<sup>248</sup> The number of *bumiputera* employed in the agricultural sector decreased from 951,100 in 1970 to 875,200 in 1990 but the number was still high compared with the number of Chinese which decrease from 300,900 to 207,200 and the number to Indians from 142,000 to 136,400 for the same period.

<sup>249</sup> The Third Outline Perspective Plan 2001-2010, pg. 53.

the privatisation policy. This policy was intended to promote more *Bumiputera* entrepreneurs and businessmen.

This scenario gave the Government a broader framework to implement the NDP based on the principle of growth and equity. In principle the NDP was no different from the NEP. The NDP was to continue the efforts undertaken during the NEP to eliminate economic imbalances among communities and regions, to eradicate poverty and to ensure an equitable distribution of the benefits of socio-economic development through a healthy and sustained economic growth. In terms of relative poverty as mentioned above, this was not just a matter of raising levels of real income but it also meant that this lower income group would have improved access to better social services and income opportunities. Their standard of living could be further enhanced through the provision of better services and amenities to help reduce income gaps.

The main objective of the NDP was to attain a balanced development in order to create a more united and just society. At the same time, the NDP would set the pace to enable Malaysia to become a developed and industrialised nation by the year 2020 under the national agenda of Vision 2020<sup>250</sup> as inaugurated by the previous Prime Minister Dr. Mahathir Mohamed. The fully developed nation as envisaged by the government was one that was not just interested in economic development alone but it involved all other aspects such as social justice, political stability, system of government, quality of life, social and spiritual values, national pride and confidence. It was hoped that through Vision 2020: -

---

<sup>250</sup> Vision 2020 was birthed at the inaugural meeting of the Malaysian Business Council on 28 February 1991 at which the Prime Minister presented a working paper entitled – *The Way Forward*. This paper included the generally accepted Vision 2020 Statement which established a national agenda for excellence for all Malaysians.

‘Malaysia will be a united nation with a confident Malaysia society infused by strong moral and ethical values, living in a society that is democratic, liberal and tolerant, caring, economically just and equitable, progressive and prosperous, and in full possession of an economy that is competitive, dynamic, robust and resilient.’

The Vision<sup>251</sup> encompasses nine strategies as follows:-

- strengthening national unity;
- attitude formation;
- fostering a mature democracy;
- spiritual enhancement;
- developing a scientific world view;
- nurturing a caring society;
- proceeding towards an equitable society; and
- achieving prosperity

This was a tall order in that it required a fair and equitable distribution of national wealth, creation and maintaining a highly moral and ethical society with virtues that were to promote unity, a caring attitude and yet resilient to meet any challenges and uncertainties whether economically, politically or socially. With this national agenda, all sectors including health would have to be directed and coordinated to ensure that the development of the nation would progress accordingly to achieve its objectives.

---

<sup>251</sup> *ibid.*

From the 1969 riot incident and the achievements gained through the implementation of NEP, its economic growth and expanding economy were the basis on which the government hoped to successfully implement the NDP and Vision 2020. In addition to this, the other important criteria were the high levels of efficiency required in both the public and the private sectors to effectively implement programmes and activities according to the objectives stated; to ensure budgets and expenditures were managed efficiently; and finally to distribute and utilise resources both efficiently and effectively according to its distributional objectives in order to successfully impact the target groups whether the hardcore poor, the disadvantaged groups or the deprived regions.

The government also encouraged the private sector to contribute productively to the expansion of the economy as well as providing opportunities for employment, further enhancing economic growth and complementing the government's effort to eradicate poverty and to restructure the society for a more balanced development, a more sustainable economy and a higher standard of living for all groups of populations.

At present, economically, Malaysia is recognised as a newly industrialized country experiencing rapid economic development in the last three decades. It has currently emerged as one of the fastest growing economies in the ASEAN region. The manufacturing sector, being the largest economic sector has spearheaded the country's economic growth over the last two decades. The GNP growth in Malaysia from 1990 to 2000 has been on an average of eight percent annually except for the 1997-1998 where the economy was hit by the regional financial crisis and declined to seven percent in 1998.

The NEP started a structural change in the economy as well as the social elements of the nation through its restructuring strategies. This structural change was possible because there was a deliberate effort from the government through its distributional objectives to meet its equity goals. However, it failed to narrow the gaps totally although opportunities were open for all to participate in development. All sectors including health were to give priority in channeling their resources to alleviate the problems of poverty, inequalities and disparities that existed as shown in the high income gaps among the different states and ethnic groups and between rural and urban population. The NEP's effort had to be continued under the NDP. Many of the weaknesses and constraints of the NEP were identified for rectification during the NDP. NDP was able to reduce poverty levels and increase household incomes but not all achieved the same success. See Table 4.1. The numbers of poor households in rural areas were reduced significantly from 530,300 to 264,300 a reduction of 50.2 percent but the poor households in urban areas were reduced from 89,100 to 86,800 a reduction of only 2.6 percent. Similarly the incidence of hardcore poor in the urban areas was reduced only 0.9 percent compared to 2.8 percent for the rural areas. Following the earlier two national development policies, the latest of which is the National Vision Policy (NVP) for the period 2001-2020 will build upon the efforts initiated under the NEP and NDP. NVP incorporates the key strategies of NEP, namely, eradicating poverty irrespective of race and restructuring society; and NDP which emphasizes balanced development. In general NVP will strengthen the basis of transforming Malaysia into a fully developed nation by 2020.

The health sector may not be directly contributing to improvement of income levels or reducing poverty but it has important indirect effects on the needs of the poor through

the provision and delivery of its services; opening opportunities for employment and producing a healthy labour force for the country. The provision of access to facilities is to upgrade the poor's welfare and quality of life.

Since Independence, the public health care system in Malaysia has been based upon a universal welfare model.<sup>252</sup> This was the same as the classification given by Roemer in his comparative analysis of health systems of the world, that Malaysia has a welfare-orientated system where the government through the Ministry of Health took on the major responsibility of protecting the health of the Malaysian population.<sup>253</sup> This policy has been deeply rooted since the colonial days from a system that served that need of the colonial civil servants and employees, estates and mine workers which later extended to the urban and lastly the rural population. Up to today, the government still provides basic health care from primary care level to secondary and tertiary care to all Malaysians for free or at a nominal fee. Therefore, it was through this welfare orientated system, that the public health sector could incorporate the values and goals of the national development policies easily through its highly subsidised provision of health care. The population can be elevated to a higher living standard without having to pay exorbitantly for health care and this is a means to improve the incomes of the poor.

Both the NEP and the NDP together with Vision 2020 have a role to play in influencing and directing the health care policy in Malaysia. Health which comes under

---

<sup>252</sup> Barraclough S. Health Policy, April 1999; 47(1):53-67.

<sup>253</sup> Roemer, 1991, pg. 398.



social services as stated in OPP2<sup>254</sup> mentioned specifically that the overall strategy and thrust of the health sector would be the attainment of 'Health for All' by the year 2000<sup>255</sup> which include the following:-

1. to further develop, strengthen and maintain an efficient and effective health services delivery system to ensure more equitable distribution, greater accessibility as well as improved quality and mix of health services, particularly for the rural community;
2. the curative, preventive, rehabilitative and promotive aspects of health care will be continued;
3. the quality of the rural health services will be strengthened through upgrading, development and refurbishing of health care facilities; and
4. to continue development of quality and experienced personnel.

In line with the objectives of OPPI, MOH has embarked in a number of poverty upliftment programmes to alleviate the poor economic conditions of the poor such as identifying malnourishment among the children of these families and providing food supplements, providing technical assistance for environment sanitation and clean water supply, curative care and education in health and hygiene. Priority was given to development of health services in the rural areas and redevelopment of existing hospitals. During the OPP2 period, MOH followed the strategy of providing appropriate and affordable technology based on priority of need as during this period as there was an emergence of information technology and the public are made more aware of their need,

---

<sup>254</sup> The Second Outline Perspective Plan 1991-2000 pg. 150.

<sup>255</sup> Adopted the Primary Health Care objectives as formulated in The Alma Ata Declaration enunciated by WHO in 1978.

hence a higher expectation and demand for hi-tech medical care. New health facilities such as Blood Services Centres and Public Health Laboratories were set up; new and better technologies in health care were introduced such as lithotripsy, laparoscopic surgery, mammography, hip replacement surgery, microsurgery and bone marrow transplant.

Since the principal thrust of the OPP2 was the promotion of a more balanced, broad based, resilient and a competitive economy so as to provide the foundation for attaining the status of a fully developed nation by the year 2020. The private sector was also encouraged to play a more dynamic role in their contribution towards this end. During this period the private sector was made the engine of economic growth and private hospitals and clinics were mushrooming in the urban areas in response to the growing demand of the community. The growth of the private health sector has also contributed to the improvement of health standards and indirectly to the economic and social development of the population.

Health may not be the leading sector in achieving the goals of OPP2 and Vision 2020 but its role in reducing the social-economic imbalances especially in providing appropriate health services to the poor and the disadvantaged groups and providing opportunities for them to improve their income levels cannot be ignored. Free healthcare was perceived as an effective means of transferring income to the poor who cannot afford to pay for expensive health care. Besides that, health is a requirement for the productive and efficient workforce needed for the expansion of the economy. If the population is burdened with diseases and illness, this will only lower labour productivity which will affect the sustainability of the nation's socio-economic development.

On the part of the public sector, in order to attain a long term sustainable development, the government would have to increase its efforts in the areas of increasing efficiency, improving resource mobilization and enhancing technical development in all its sectors. The health sector in particular the public health sector will need to focus on effective targeting, equitable distribution of resources and efficient delivery of health services. Only then can the health sector be seen to play an active contributory role in reducing the socio-economic imbalances and to promote competitiveness for the attainment of a developed nation status by year 2020 amidst the new challenges faced by the health system.

MOH being a partner to the realisation of Vision 2020 has taken an active move in introducing the Vision of Health for Malaysia<sup>256</sup> in line with the aspiration of the Government as follows: -

‘Malaysia is to be a nation of healthy individuals, families, and communities, through a healthy system that is equitable, affordable, efficient, technologically appropriate, environmentally adaptable and consumer friendly, with emphasis on quality, innovation, health promotion and respect for human dignity, and which promotes individual responsibility and community participation towards an enhanced quality of life.’

In line with this vision, MOH began to embark on a mission to build partnerships for health to motivate and facilitate the population at large to take responsibility to attain fully their potential in health, appreciate health as a valuable asset, and take positive action to further improve and sustain their own health status to enjoy a better quality of life. To

---

<sup>256</sup> Vision and Mission for Health are stated as preamble in the MOH Annual Reports beginning 1995.

bring this mission to fulfillment, the MOH has instituted eight health services goals to further strengthen and enhance its capacity to deliver its vision and meet the national development objectives of Vision 2020. The goals are as follows:

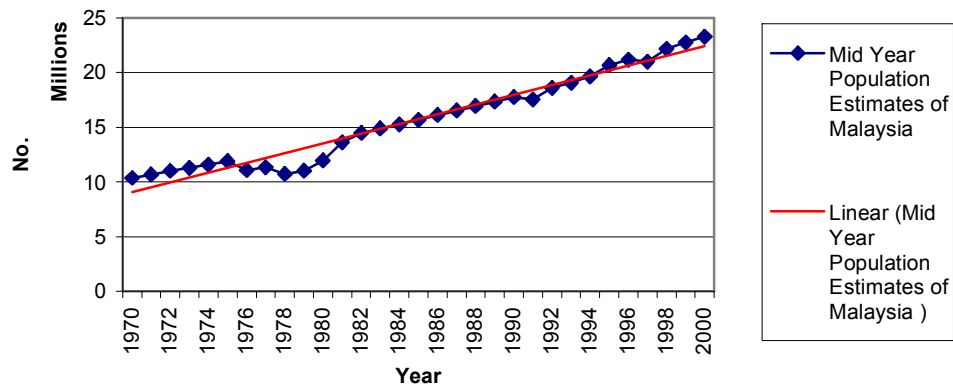
- wellness focus – provide wellness throughout life through network-based services and health management;
- person focus – provide user friendly virtual services when and where required;
- informed individual – provide accurate and timely information and promote knowledge through personalized information and education services via multimedia network;
- self help – increase the ability of individuals to manage health through knowledge transfer and interactive network-based health management tools;
- care provided at home or close to house – provide distributed multimedia network to deliver virtual services into rural and metropolitan homes, health settings and community centres;
- seamless, continuous, coordinated health care – integrate personal health and medical information across episodes of care throughout life through computerized health plans and records;
- services tailored to the people’s need – customize and integrate services and information for individual and group needs; and
- effective, efficient and affordable services – provide enhanced access, integration and timely delivery of high quality services at reasonable cost.

The ultimate goal of the health sector is to raise and sustain optimally the health status of individuals, families and communities to enable them to lead a socially and economically productive and better quality of life. This is not going to be an easy task as new issues and challenges emerge such as demographic and disease pattern changes, technology advancement, demand for more sophisticated care, higher expectation of quality care and rising health care cost to name a few besides the current issues such as brain drain and insufficient human resources, ensuring more equitable and optimal utilization of resources and cost-control. In view of these challenges and the mission ahead there is a need for a concerted and conscientious effort to evaluate the weaknesses and the strengths of the current health system and formulate comprehensive strategies to achieve its goal.

## **2. Population and Economic Status of Malaysians**

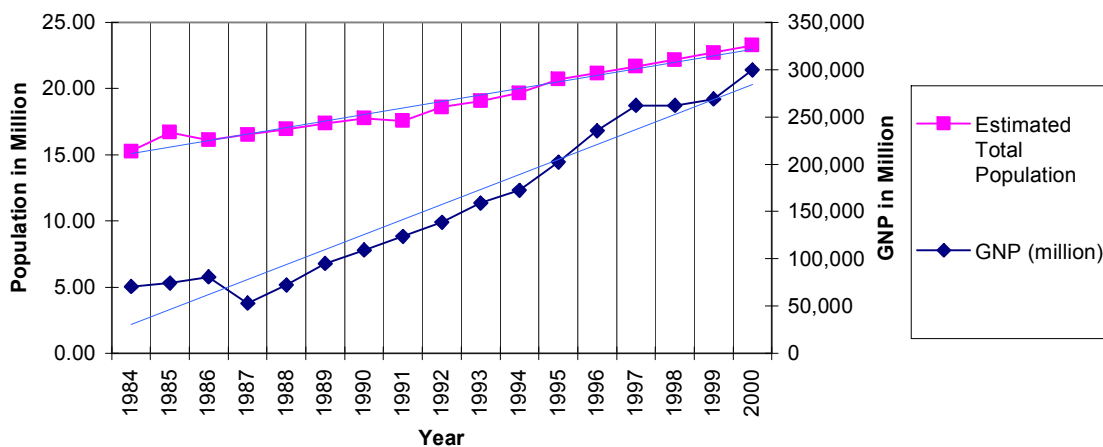
At the time of Independence in 1957, Peninsular Malaysia had a population of 6.2 million people. With the formulation of Malaysia in 1963 with the inclusion of Sabah and Sarawak, the population of the whole country was estimated at close to nine million, of which approximately 85 per cent were residing in Peninsular Malaysia, six percent in Sabah and nine percent in Sarawak. The population of Malaysia since 1970 had grown more than double from a total population of 10.47 million to 23.27 million in 2000. In the early seventies, the increase of the population was lower than the eighties and nineties, especially from 1975 to 1978. The population picked up from 1979 to 1981 and went on a steady increase from 1982 to 1990. There were two dips, one in 1991 and another in 1997. See Chart 4.1.

**Chart 4.1 : Mid-Year Population Estimates of Malaysia  
1970-2000**



Despite these two years that coincided with the slow-down in economy, the rest of the nineties experienced substantial growths. Overall, the rate of the population growth, declined from an average of 2.8 percent per annum in the 1980s to 2.4 percent per annum in the 1990s.

**Chart 4.2 : Total Population and GNP  
1984-2000**



The trend lines in Chart 4.2 above clearly show that the rate of growth of GNP was higher than the rate of growth of the population. The population was enjoying higher per capita GNP since 1988 onwards although there was a slowdown from 1997 to 1999. The impressive performance of the Malaysian economy had improved the standard of living for

the population. The fact that unemployment remained at 2.8 percent showed that the economy was able to provide jobs for the increasing number of working population and the increase in the national budget over the years also indicated that the investments by the government had promoted the well being of the population.

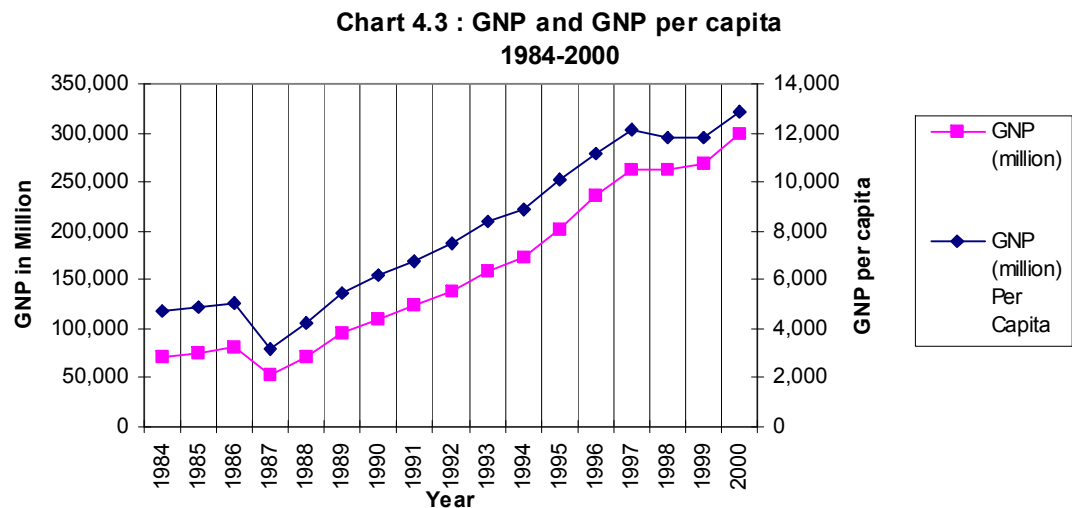


Chart 4.3 showed that GNP per capita followed closely the pattern of GNP. There was a direct correlation between GNP and the labour force of the population. As GNP increased, the wealth of the population also increased. Chart 4.4 below showed that as GNP increased, national budget also increased but at a rate that was slower than the growth rate for GNP.

The trend of growth in the public sector as shown in the increase of the national budget showed that the government was conservative in terms of spending. Instead the main engine of growth came from investment in the private sector. Both the trend lines for GNP and national budget were quite parallel until after 1988 when the gap began to widen

as the GNP growth went on a steeper gradient although there were some years when the growth was stunted between 1992-1993 and 1997-1998.

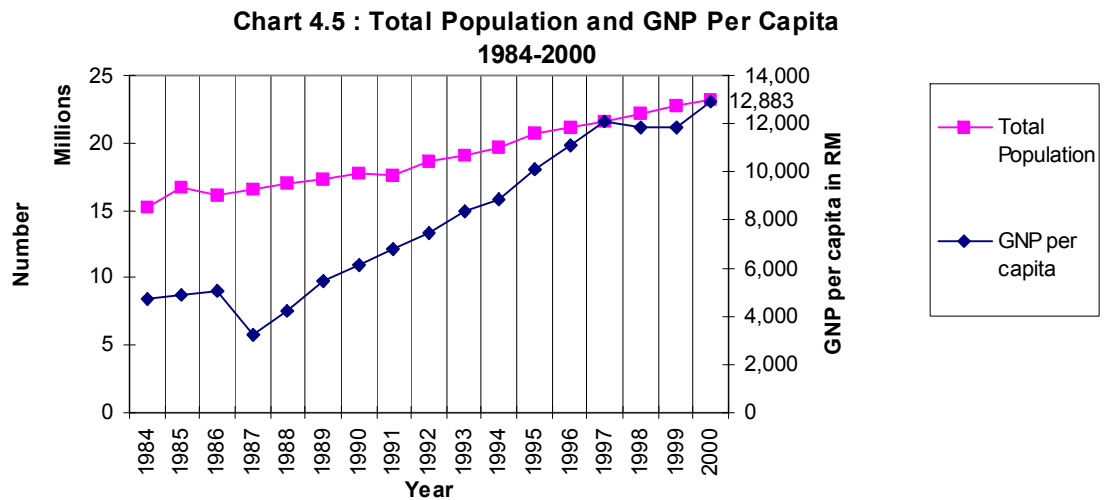
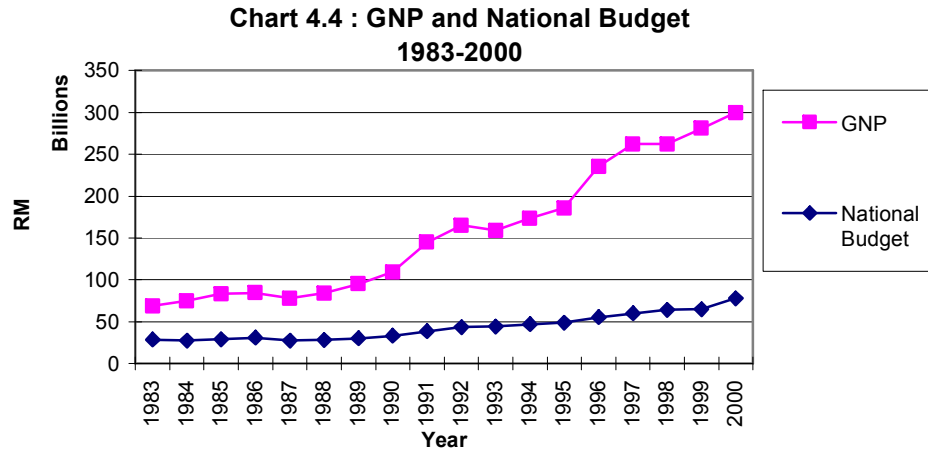
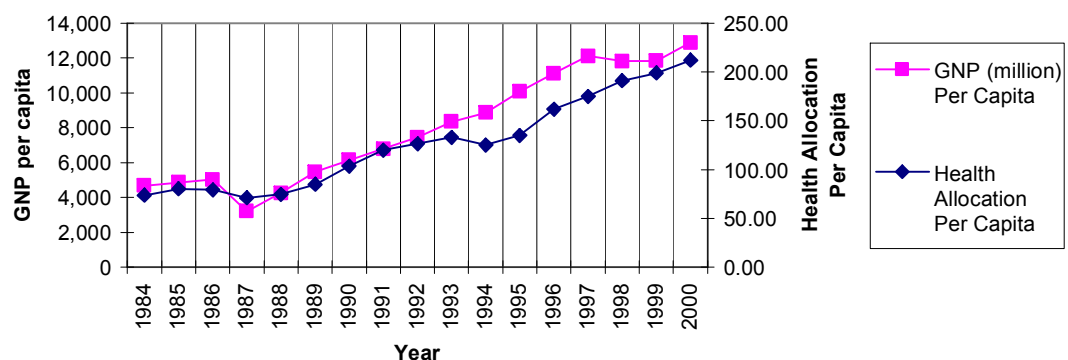


Chart 4.5 above shows a clearer picture that the rate of increase of the population over the period of 16 years was slower than the increase in per capita GNP. Except for the dip in 1987 and a slowdown from 1997 to 1999, the rate of increase of per capita GNP had been rather substantial. In absolute terms, the GNP per capita for 1984 was RM4,685 and in the year 2000 it went up to RM12,883, an increase of 175 percent.



There was also a similar trend between GNP per capita and health allocation per capital as shown in Chart 4.6 below. When there was an increase in GNP per capita, there was also a parallel increase in health allocation per capita. In 1987 when the GNP per capita fell there was also a slight decrease in the health allocation per capita but in 1997 when the GNP per capita experienced a downturn the health allocation per capita remained the same and was not affected by the downturn. This showed that health expenditure was on the rise and had come to a point where the cost of health care to the government as well as to the public would continue to increase whether the economy was expanding or contracting. In Malaysia, as long as the growth of the economy continued at a rapid rate, the government could bear the health care costs but it would not be sustainable if there was a recession as shown in Chart 4.6 below. Based on the experiences from developed countries, it was expected that the decreasing returns to health spending in terms of reductions in mortality would be offset by the costly medical expenditure which was rising rapidly especially in the newly industrialised countries in Asia and medical expenditure would grow at a much faster rate than per capita GNP.<sup>257</sup>

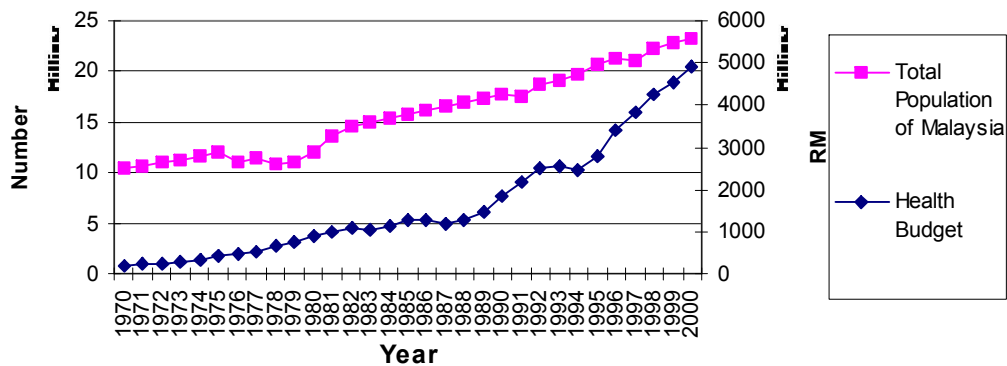
**Chart 4.6 : GNP Per Capita and Health Allocation Per Capita  
1984-2000**



<sup>257</sup> Griffin C, 1992, pg. 9.

International comparisons of health spending consistently showed that the level of health expenditure per capita was closely associated with total GDP per capita.<sup>258</sup> In Chart 4.7 below, the rate of growth of the health budget was faster than the growth of the total population. This chart indicates that the population growth in Malaysia was only a gradual growth whereas the growth of health budget allocation by the government was more significant at a steeper gradient.

**Chart 4.7 : Estimated Population of Malaysia and Health Budget  
1970-2000**

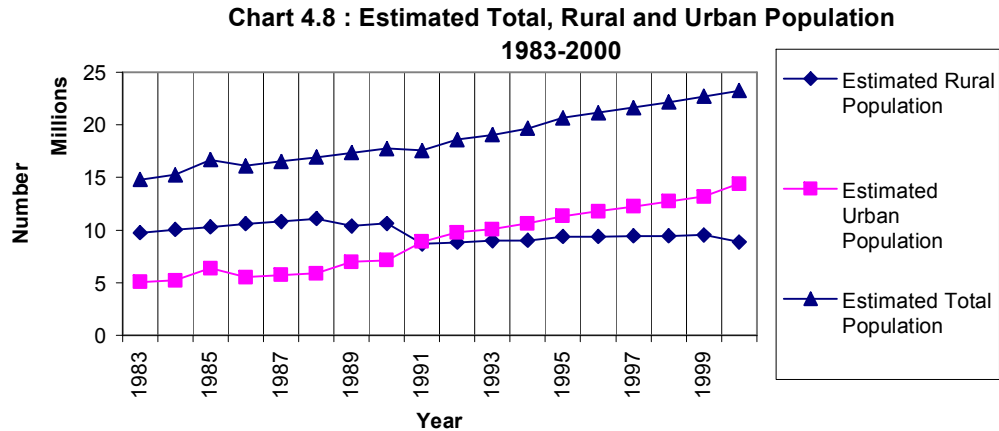


The population was seemingly enjoying a higher health budget in the last thirteen years from 1987 to 2000 except for the 1993 and 1994 period compared to the early years in the seventies and early eighties where the health budget increase was at a lower rate quite parallel to the increase of the population.

In 1970, about 71.4 percent of the population were rural dwellers. The 1970 census showed that about 5 out of 7 persons lived in rural areas in Peninsular Malaysia. The proportion of rural population had dwindled quite tremendously over the 15 years referred

<sup>258</sup> Bodenheimer T, 2005, pg. 847-854.

to. In 1983, the rural population was 65.9 percent of the total population but in 2000 the proportion of the rural dwellers was only 38.04 percent.



In Chart 4.8 above, the population structure was changed in 1991 when the urban population increased at an alarming rate and overtook the rural population. This rural urban migration intensified during the 1988 –1991 period. The gap widened as the country became more industrialised and developed. In view of these changes, if the government continues to place emphasis on rural health care perpetually, then it will be very inefficient and not putting the health care resources where the population are concentrated. Therefore, health planning should seriously consider this shift and channel the resources appropriately to urban areas where the majority of the population are. Urban health care should be the focus more than rural health care in days to come. Both the rural and urban population have different sets of morbidity and mortality structure due to the demographic and the disease pattern change.

Besides the rural-urban migration, urbanisation and attractive job opportunities in Malaysia have also drawn a large number of foreign workers into the country. The issue of

international migration is also creating a new set of health and social problems that need the attention of the health sector. The increasing numbers of foreign workers with their dependents will inevitably burden and increase the utilisation of the public health services. It was also unavoidable that some of these migrant workers contribute to the increased incidences of communicable diseases such as tuberculosis, malaria, leprosy, AIDS and so on. Surveillance and disease control programmes need to be heightened in places where the migrants are living.

### **3. Health indices and disease patterns**

In the thirty years up to 2000, socio-economic development in the country brought about improvements in terms of health indices. There was no doubt that development improved the health of the population tremendously. This was clearly seen in the decline of the vital rates for the thirty years. The most obvious was the decline in infant mortality rate which was as high as 39.4 per thousand live births in 1970 to only 7.9 per thousand live births in 2000, a reduction in 79.9 percent in thirty years. See Chart 4.9 and Table 4.2 below. Other indices also showed similar trends. Neonatal mortality rate declined from 21.4 per thousand live births in 1970 to 5.2 per thousand live births in 1998, a reduction of 75.7 percent in 28 years. Perinatal mortality rate was also reduced from 19.1 per thousand live births and still births in 1984 to 7.9 per thousand live births and still births in 1998, a reduction of 58.6 in 14 years. Still birth rate also reduced 80 percent in a matter of 28 years.

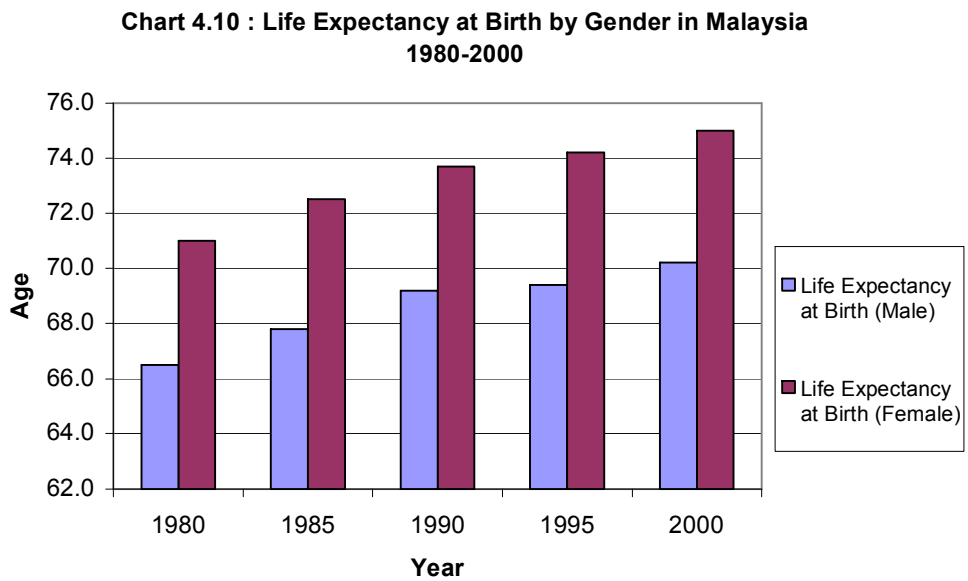
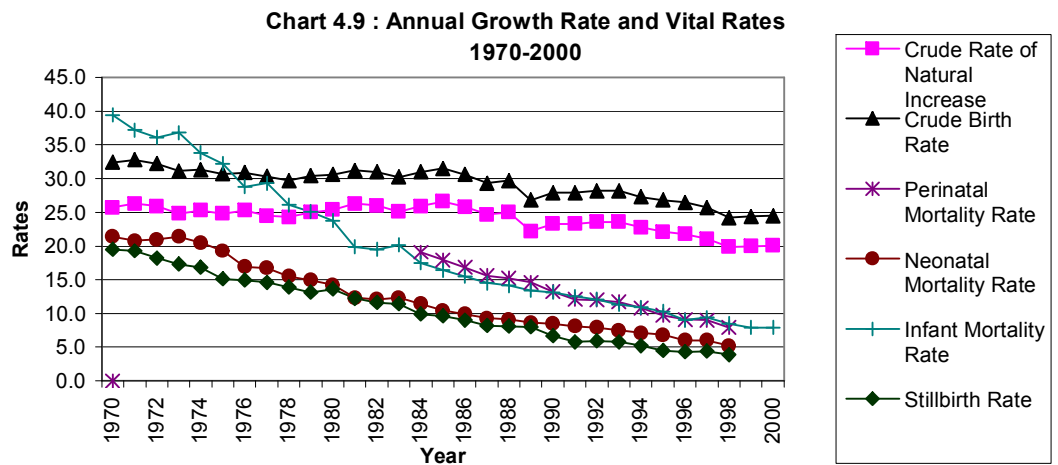
**Table 4.2 Average Annual Growth and Vital Rates, Malaysia 1970-2000**

Year	Average Annual Growth Rate	Crude Rate of Natural Increase	Crude Birth Rate	Crude Death Rate	PMR	NMR	IMR	TMR	MMR	Still Birth	Life Expectancy at Birth (Male)	Life Expectancy at Birth (Female)
1970	3.6	25.7	32.4	6.7	n.a.	21.4	39.4	n.a.	1.4	19.5	n.a.	n.a.
1971	2.5	26.3	32.8	6.6	n.a.	20.8	37.2	n.a.	1.1	19.3	n.a.	n.a.
1972	2.5	25.9	32.2	6.3	n.a.	21.0	36.1	n.a.	1.0	18.2	n.a.	n.a.
1973	2.4	24.8	31.1	6.3	n.a.	21.4	36.8	n.a.	1.0	17.3	n.a.	n.a.
1974	2.4	25.3	31.3	6.0	n.a.	20.5	33.8	n.a.	0.9	16.8	n.a.	n.a.
1975	2.5	24.8	30.7	6.0	n.a.	19.3	32.2	n.a.	0.8	15.1	n.a.	n.a.
1976	2.3	25.3	30.9	5.7	n.a.	16.9	28.8	n.a.	0.7	14.9	n.a.	n.a.
1977	2.5	24.5	30.3	5.8	n.a.	16.7	29.3	n.a.	0.7	14.6	n.a.	n.a.
1978	2.3	24.3	29.7	5.4	n.a.	15.5	26.1	n.a.	0.8	13.9	n.a.	n.a.
1979	2.4	25.0	30.4	5.4	n.a.	14.9	25.1	n.a.	0.6	13.1	n.a.	n.a.
1980	2.6	25.4	30.6	5.3	n.a.	14.2	23.8	2.1	0.6	13.6	66.5	71.0
1981	2.7	26.3	31.2	4.9	n.a.	12.3	19.9	1.7	0.5	12.2	67.5	71.8
1982	2.7	26.0	31.0	5.0	n.a.	12.1	19.5	1.7	0.5	11.6	67.3	71.7
1983	2.7	25.1	30.2	5.1	n.a.	12.3	20.2	1.7	0.4	11.4	67.4	71.6
1984	2.6	25.9	31.0	5.0	19.1	11.4	17.5	1.5	0.4	9.9	n.a.	n.a.
1985	2.8	26.6	31.5	5.0	17.9	10.4	16.4	1.4	0.3	9.6	67.8	72.5
1986	2.8	25.8	30.6	4.7	16.8	9.9	15.5	1.2	0.3	9.0	68.4	73.1
1987	2.7	24.7	29.3	4.5	15.6	9.3	14.5	1.1	0.2	8.2	69.1	73.4
1988	2.6	25.0	29.7	4.6	15.2	9.1	14.1	1.1	0.2	8.1	68.9	73.4
1989	2.5	22.2	26.8	4.6	14.6	8.6	13.4	1.0	0.2	8.0	69.0	73.6
1990	2.5	23.3	27.9	4.6	13.2	8.5	13.1	0.9	0.2	6.7	69.2	73.7
1991	2.3	23.3	27.9	4.6	12.1	8.1	12.5	0.9	0.2	5.8	69.2	73.4
1992	2.3	23.6	28.2	4.6	12.0	7.9	12.1	0.9	0.2	5.9	69.4	73.6
1993	2.3	23.6	28.2	4.6	11.7	7.5	11.3	0.9	0.2	5.8	69.4	73.8
1994	2.3	22.8	27.3	4.6	10.8	7.1	10.9	0.9	0.2	5.2	69.4	74.0
1995	2.3	22.1	26.8	4.7	9.7	6.8	10.3	0.8	0.2	4.5	69.4	74.2
1996	2.2	21.8	26.5	4.7	9.1	6.0	9.0	0.7	0.2	4.3	69.3	74.3
1997	2.1	21.1	25.7	4.6	9.0	6.0	9.4	0.7	0.2	4.4	69.6	74.6
1998	2.3	19.9	24.2	4.6	7.9	5.2	8.5	0.7	0.3	3.9	69.7	74.7
1999	2.4	20.0	24.4	4.4			7.9	0.6	0.2		69.9	74.9
2000	2.4	20.1	24.5	4.4			7.9	0.6	0.2		70.2	75.0

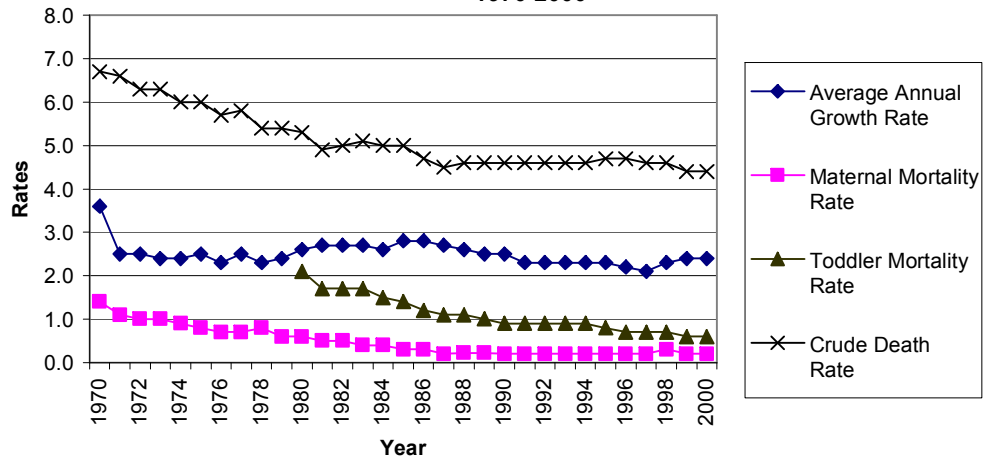
Source: *Vital Statistics Time Series Malaysia 1963-1998*, Dept. of Statistic, Malaysia, 2001  
*Social Statistics Bulletin Malaysia 2001*, Dept. of Statistics, Malaysia, 2002

All these declines were at a much faster rate than the average annual growth rate and crude rate of natural increase which meant that the population in general was experiencing better health and better quality of life than thirty years previously. Life expectancy at birth for both male and female also improved tremendously. See Chart 4.10

below. In 1981, the life expectancy at birth was 66.5 years for male and 71 years for female and by 2000 they were increased to 70.2 years and 75 years respectively. Besides, the crude death rate dropped gradually from 1970 and remained quite constant at a low rate between 4.4 to 4.7 from 1986 onwards.



**Chart 4.11 : Average Annual Growth and Vital Rates  
1970-2000**



Maternal mortality rate was already at the lowest at 0.2 per thousand live births since 1987. By looking at the downward trend of the vital rates as shown in Chart 4.9 and 4.11, there were significant improvements in the health status of the population.

These improvements were not totally attributable to the delivery of health services alone but by many other factors such as improved nutrition, better education, more hygienic sanitation, safe water supply, better housing conditions, improved income and also better lifestyle. Above all, it was due to the overall economic development of the nation because all these improvements could only be brought about by economic growth that would enable the government and the private sector to invest in education, housing, clean water and etc. There were also general improvements in environmental sanitation, safe water supply, nutritional diet, hygienic sanitary latrines, better housing, childhood immunization programmes, greater disease surveillance, newer intervention technologies, better public awareness and participation. In 1998, 97 percent of its urban population and 90.7 percent

of its rural population were served with safe water supply. Even for the rural population 98.4 percent had adequate sanitary latrines.

On the whole, at least in the Malaysian context over the thirty years, socio-economic developments improved the general health status of the population. Although the health care system was not the only contributing factor to improving health status, it played an important role in ensuring that provision and delivery of health care was distributed to benefit all categories and groups of population irregardless of where they lived, income levels and age. This was to fulfill the goals of Vision 2020 for a healthy population to contribute to making Malaysia a fully developed nation by 2020.

On the other hand, unchecked development would be detrimental to the health of the population, for example, overcrowding, congestion, wastage, pollution and unequal distribution of resources. This was clearly mentioned in the 5MP onwards that congestions had been created through the unequal distribution of resources. It must be noted that although on the average health status among Malaysians had improved generally, there were some districts which had their mortality and morbidity rates much higher than the national figures. The differences could be seen between the urban and rural population and even amongst the different ethnic groups depending on their socio-economic position and for different regions.

In some of the rural Malay villages and the estates where Indian labourers lived, the poor and unhygienic living conditions, overcrowding, low sanitary standards and unbalanced diet caused high incidences of malnourishment, underweight, anemia, worm



infection and other related health problems. In like manner, the urban migration of population was not properly regulated and it created problems such as overcrowded squatters which suffered the same predominant health problems as the rural poor due to poor housing, stress and other urban lifestyle problems such as pollution, frequent infections, accidents, smoking, drinking and poor eating habits. Health issues related to rapid urbanisation cannot be ignored by the government. Their needs may not necessarily be the same as those faced by the rural folks.

Another aspect to consider was the disease pattern of the population. The disease pattern in Malaysia has changed over the last forty years from infectious communicable and nutrition related diseases to one which is influenced by the increased affluent lifestyle such as heart diseases, cardiovascular diseases, neoplasm, hypertension, respiratory disease and trauma. See Table 4. 3 below.

Diseases of early infancy which were at the top in 1960 and 1970 dropped to sixth position in 2000. This similar downward trend was also for diseases such as pneumonia and gastroenteritis. The diseases that went up the scale instead were heart diseases, malignant neoplasm, cardiovascular disease and accidents which were all related to stress, urban and affluent lifestyle, occupational and environmental hazards and dietary habits. Out of the total medically certified deaths, 50 percent were principally caused by heart disease which is the leading cause of mortality in Malaysia.

<b>Rank</b>	<b>1960</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>
<b>1</b>	Disease of early infancy	Disease of early infancy	Heart disease	Heart disease	Heart disease and diseases of pulmonary circulation
<b>2</b>	Heart disease	Heart disease	Disease of early infancy	Maglinant neoplasm	Septicaemia
<b>3</b>	Gastroenteritis	Accidents	Accidents	Disease of early infancy	Malignant neoplasm
<b>4</b>	Pneumonia	Maglinant neoplasm	Cardiovascular disease	Accident	Cerebrovascular disease
<b>5</b>	Tuberculosis	Cardiovascular disease	Maglinant neoplasm	Septicaemia	Accidents
<b>6</b>	Maglinant neoplasm	Pneumonia	Pneumonia	Nephritis, nephrotic syndrome and nephrosis	Disease of early infancy
<b>7</b>	Accidents	Tuberculosis	Tuberculosis	Congenital anomalies	Disease of digestive system
<b>8</b>	Cardiovascular disease	Gastroenteritis	Gastroenteritis	Pneumonia	Pneumonia
<b>9</b>	Deficiency disease	Disease of the liver	Disease of the liver	Diabetes mellitus	Nephritis,
<b>10</b>	Complications of pregnancy	Complications of pregnancy	Deficiency disease	Ill-defined conditions	Ill-defined conditions

*Source: Ministry of Health Annual Report for the respective years*

Even though many infectious diseases were still prevalent in Malaysia, the mortality and morbidity due to them had been greatly reduced. There had been substantial progress on malaria control but dengue and tuberculosis were still a concern even though the incidences had dropped. There has also been an increase in deaths caused by accidents. Another major health challenge was AIDS which was on the rise. This was where improved socio-economic development could have a negative impact on the health of the population and the health care system. One may argue that urbanisation had improved income levels and geographical access to health care but on the other hand it has also created adverse consequences which were hazardous to the environmental and occupational health of the population. The impact was quite harmful because it did not only affect the physical life of the population but the social and mental life as well.

The government's call to have a balanced development was most apt in reducing these negative consequences and the health sector has an important function of redressing the issues by having a responsive health care system.

#### **4. Malaysian health care system, financing and reforms**

The basic structure of the Malaysian health care system which was inherited from the British had remained the same over the last 40 years mainly providing curative and preventive care to the population at large. Under the Federal Constitution, health and medical matters are under the responsibility of the Federal Government. The Federal Government through MOH has been the main provider of health services since Independence and its primary functions covered curative, preventive, rehabilitative, promotive and regulatory aspects.

Presently, MOH provides health care through its 123 government hospitals, six special institutions, 772 health clinics, 1,992 rural clinics, 107 maternal and child health clinics, 1,592 dental clinics and 208 mobile clinics. MOH is one of the largest ministries with total staff strength of slightly more than 100,000. The organizational structure of the MOH exists at the national, state and district level with a hierarchical form of accountability with each level having its specific responsibilities. Much of its administrative functions have been decentralised to allow local managers and officers to manage at the point of delivery.

Currently, the MOH plans, implements, monitors and regulates four main programmes and forty-one activities under these programmes. The four programmes are health, medical, research and technical support and management. Under these programmes are the various activities supporting the programmes. For example, under the health programme the main activities include primary care and family development, disease control, food quality control, health education and dentistry. Hospital care, secondary and tertiary care, medical rehabilitation, community medical care and medical quality and technology development come under the medical programme. Research, planning and development, pharmacy and engineering come under the research and technical support programme. Finally the management programme includes activities such as finance, human resource management, planning and training, information technology and procurement and privatisation. As far as the basic structure and organization of the Malaysian health care system is concerned, there is no change since Independence.

Besides the public sector, the private sector provides health care to those who can afford to seek private health care. In the last decade or so private health care had grown significantly with the mushrooming of private hospitals and private medical colleges in every state. The private health sector provided healthcare through their private hospitals and nursing/maternity homes, private practitioners, pharmacists, business enterprises with health functions and traditional practitioners. Their concentration was in the urban areas especially in the larger cities to cater for the more affluent urban population who could afford these private services. The private providers were driven by profit and therefore their focus was mainly on curative care with high return. Although some may provide

immunization against child diseases, they do not concentrate on preventive care. They are paid on a fee-for-service basis or through medical insurance pay-out or reimbursement from employers for their employees.

In terms of financing, healthcare in Malaysia comes mainly through general taxation from various sources. In 2000, MOH annual budget accounts for 6.23 percent of the national budget which is 2.58 percent of the GNP. The Ministry of Finance contributes 97 percent of MOH total expenditure and the remainder 3 percent comes from fees collected. Other sources of financing are through out-of-pocket expenditure from the public for using private health care; social security fund (SOCSO) for employees earning RM2,900 and below per month for medical care involving accidents and injuries at work place; savings through the Employee Provident Fund (EPF) which allows withdrawal for medical expenses from the second account but limited to the list of illnesses specified by them.

Besides this, there are private health care insurance which is slowly gaining popularity as the public begins to feel the pinch in their pockets for private healthcare. There are less than 10 private healthcare insurance companies offering insurance for medical expenses and more than 45 MCOs<sup>259</sup> are registered with the Ministry of Trade to provide third party management of payment-for-services provided. Other sources of financing come from: medical reimbursement schemes provided by large employers to their panel doctors for provision of care to their employees; community initiated schemes and financing by sponsors.

---

<sup>259</sup> Gordon Marnoch & Paul C S Lian, *Social Science & Medicine*, March 2002;54(6):869-877

The expansion of the private sector especially in the urban areas created greater inequality between the urban and rural sectors. Therefore, the future direction of the government, in the light of the concentration of private healthcare facilities and the rising costs of health services, would be for the government to play a greater regulatory role in the health system so as ensure an equitable and wider distribution of private health care facilities for the continued provision of quality and affordable health services to the society.

Changes in disease pattern due to the rising affluence, improved standard of living, increased demand for more high-technology medical care and a growing aging population will have an impact on healthcare cost. The government realised the need to identify appropriate and acceptable means to reduce this burden on the government through some kind of reform, whether it was through improving efficiency and quality of healthcare delivery or to develop an alternative financing scheme, the government of Malaysia would have to weigh all possibilities against the objectives and goals of the Vision for Health for Malaysia.

As shown in the previous chapters, the government has all the intention to implement an alternative financing mechanism to reduce the public burden but the process has been very slow. So far MOH had been very cautious and took a gradual incremental approach in its healthcare reforms. Besides the structural reform of the conversion from a three tier to a two tier primary care services, the other major reform was the introduction of corporatisation and privatisation into the public health sector which was the result of two major policies, namely Malaysia Incorporated (1983) and the Privatisation Master Plan

(1991). The objective of these policies was to reduce the financial and administrative burden of the government; the need to reduce the size of the civil service; and the requirement to improve efficiency, productivity and quality of services to the public sector. Corporatization allows the government to own the entity but it operates like a private organization whereas privatization involves transferring the roles, responsibilities and functions of the government partly or wholly to the private sector.

In 1992, the National Heart Institute (IJN) was the first health institution to be corporatised. IJN started as a cardio-thoracic unit in the Kuala Lumpur General Hospital (GHKL) and one of the reasons for corporatising was to retain the highly trained personnel in the public sector. Other reasons are the high incidences of cardio-vascular diseases and the number of people who were going for heart surgery overseas or to the private sector. The government is the sole owner of the corporatised IJN under the Ministry of Finance Incorporated but the governance was given to a board of directors appointed by the MOH with an appointed CEO who form the decision making body.

With corporatisation, the source of revenue came from fees from private paying patients and subsidies from the government for the civil servants, pensioners and the poor. Reimbursements by the government were based on a fee schedule for the services rendered. During the corporatisation exercise, existing staff were given three choices, either to join IJN, seconded to IJN for two years with the option to join IJN later or remain in GHKL. The Board of Directors were given the management autonomy to hire and fire, to determine starting salaries and bonuses, to purchase equipment above RM500,000 and to decide on capital investment below RM15 million. For expenses above RM15 million or any salary

revision or payment of bonus or change in fee schedule they were to get prior approval from the Ministry of Finance.

The benefits gained from corporatization of IJN was greater management autonomy, more sophisticated services, better quality care and increase in revenue. It is common for patients to wait for at least six months for treatment.<sup>260</sup> There was no incentive to increase efficiency and costs remained high. In terms of equity, private paying patients were given priority or allowed to jump-the-queue while the public or poor patients were on long waiting list. Presently non-emergency cases have to wait nine to twelve months and 80 percent of the patients are government dependent. This has created an equality problem whereby the poor or subsidised patients have to wait longer and given less priority than private patients. To counter this problem, the government has set up three other cardio-thoracic units in Hospital Pulau Pinang, Hospital Sultan Aminah in Johor and Hospital Umum Sarawak to cater for the poor.

Following this, in 1993 the government medical store was privatised and in 1997 hospital support services were also privatised in the form of contracting out five non-clinical services, namely the clinical waste management services, cleaning services, linen and laundry services, facility engineering maintenance services and biomedical engineering maintenance services. Three private companies were given 15 years concessions to provide these services for the MOH hospitals; each given a specific region to operate. Faber-Mediserve were given the Northern and East Malaysia region, Radicare (M) Sdn Bhd took the central and east coast and Tongkah Medivest renamed Pantai Medivest operate the

---

<sup>260</sup> The Star, 6 February 2003



southern region. The MOH staffs were given the option to join them or remain in the public service. Almost all the staff was absorbed by these concessionaires. To supervise the work and the quality of the services, MOH contracted a third party (SIHAT) to supervise these contractors.

A study on contracting out non-clinical services was conducted in 1998/99<sup>261</sup> and the findings clearly showed that the costs were too high. Operating cost increased from 11 percent to 27 percent, cost per day increased from 19 percent to 33 percent and contractors were charging very high for any reimbursable works done. Although there were costs savings in salary, maintenance and utility costs, the cost of professional services and charges far out weighed the savings thus, increasing the overall costs tremendously. There were no incentives to be efficient due to the long concessions given to these contractors. Furthermore, sanctions in terms of deduction for work not done according to contract terms were only deducted four years after the contract was awarded. Quality of services showed little improvement or no improvement especially in the initial stage where the contractors showed lack of expertise in some areas. Instead of reducing the workload of the hospital staff through contracting out these services, there seemed to be an increase in workload for local managers and staff in supervising both the concession companies and SIHAT to ensure they do their work accordingly.

In order to circumvent the problems that arose, there was nothing very much the government could do except to ensure that the concession companies abided by the contract strictly and deductions were made for any non-compliance to the standard of quality that

---

<sup>261</sup> An internal study done by Ministry of Health in 1998/1999.

had been agreed upon. In 1999, there was another attempt by the government to privatise healthcare by corporatising the 14 general hospitals in the country. The aim was to ensure that through such corporatisation, the hospitals would be more efficient, effective and sustainable as self-financing entities capable of fulfilling its function as service organisations. However, on 13 August 1999, the government announced that the plans to corporatise health care services in MOH clinics and hospitals have been cancelled.<sup>262</sup> Although the objectives of privatisation as laid out in the Privatisation Master Plan seemed good with intention to meet national economic policy targets, whether these objectives were met in the case relating to the health sector has not been evaluated. The same goes for corporatisation as well. How effective and efficient the system has become after corporatisation has yet to be critically and scientifically evaluated. Therefore, any future privatisation programme would be properly planned, transparent, competitively tendered and given shorter term of contract.

Since then, there has been no further proposal by the government to reform the health system except that in the 7MP, the government promised to implement a national health financing scheme to meet health care costs and in the 8MP the government was to implement the concept of cost sharing through a healthcare financing scheme that will provide the public more choices to receive care from the public or the private sector. 8MP has passed but no such reform was done.

## **5. Conclusion**

---

<sup>262</sup> Malaysia's Health 2000, MOH, pg. 262.

Issues affecting the Malaysian health care system have evolved over the last 40 years since Independence. What was seen as an issue then may no longer be applicable today. Firstly, the Malaysian population is more affluent today than it was thirty years back. Income per capita has risen substantially since 1970. NEP has helped raised income levels and the most backward and disadvantaged groups can now enjoy better incomes and living standards with better opportunities for education and employment. The government has also changed its goal from one that was to eliminate poverty to one that is moving the nation towards industrialisation and higher living standards. As the country is moving towards being an industrialized nation, the needs and the demands of the population are also changing. Therefore, the expectation of the public for better and higher quality care cannot be ignored. They want value for their money and many are willing to pay for reduced waiting time and also more sophisticated diagnostic tests and treatment. This will eventually raise health care cost.

Demographically, there are more urban dwellers today than rural folks. The composition of the population is a young one with a lot of potential as the nations' productive workforce capable of generating more incomes for the households as well as for the nation. This economically active and productive age group of the population has increased substantially. As the country advances, there is also an influx of foreign labourers from the neighbouring countries as well as other third world countries coming to Malaysia to participate in the expanding economy. The government simply cannot ignore their health care needs. In terms of disease patterns, communicable infectious diseases have been replaced by degenerative chronic diseases which are related to the affluent lifestyle of the population. Aging population is also on the rise although not as significant

as in the developed countries. These factors are the environments whereby the health system must respond to in order to effectively improve the health of the population.

The expanding economy of Malaysia has successfully generated sufficient resources for the development of the public health sector especially in the expansion of health care facilities in the country. However, not all the different states enjoyed the same benefits, albeit, there were some successes in narrowing the income gap through the implementation of NEP, NDP and NVP but these policies were not totally successful in eliminating the income gaps of the population among the different states and regions totally and also between the urban and rural population. In order to realise or achieve the objectives of NEP, NDP and NVP there need to be high level of efficiency in the distribution of resources and properly targeting the hardcore poor, the disadvantaged groups and the deprived regions but this is not shown to be done.

The health care development in Malaysia before Independence and after Independence did not see any major shift in terms of major changes to the health care system. There was a gradual development that followed very closely the national socio-economic policy of the country. Basically the provision of public health care in Malaysia followed a universal welfare orientated policy where the government is the main provider as stated by Barraclough.<sup>263</sup> He stated that the desire to re-orientate public health has its roots in both a reluctance to increase expenditure on health care as a percentage of the national budget and he also believed that the promotion of state welfare will both detract

---

<sup>263</sup> Barraclough S. Health Policy, April 1999; 47(1):53-67.

from economic development and inculcate undesirable societal values.<sup>264</sup> This conclusion was not all true when taking a closer look at the exponential increase of the public health care expenditure that has increased almost 27 times from RM183 million in 1970 to RM4,931 million in 2000 over the period of thirty years.

Despite having to subsidise heavily for the public health sector, the health budget was only a mere 2.58 percent of GNP in 2000 which was still below the WHO recommended amount of five percent of the GNP to be spent on health. Furthermore there have been numerous reports that Malaysia has done well with such a relative low cost. One of them was the World Bank Study on Health Care in Asia that mentioned that Malaysia had done well in the health sector despite shortfalls in spending<sup>265</sup> and had achieved good health indicators which spent a much smaller proportion of its budget on hospitals.<sup>266</sup> Griffin also mentioned that Malaysia had a high total expenditure that comes from the public sector which may be the result of carefully considered decisions and government priorities and that its large public financing may have crowded out private contributions,<sup>267</sup> supplanted private spending and hindered the development of insurance.<sup>268</sup>

Although the public spending on health was high, the private spending has not been low either. During the last decade in the 1990s, the growth of the private sector has been tremendous. This was clearly demonstrated by the rapid increase of private hospitals and beds. In 1980 there were only 50 private hospitals including maternity homes but in 2000

---

<sup>264</sup> *ibid.*

<sup>265</sup> Griffin, 1992, pg. 61.

<sup>266</sup> *ibid.*, pg. 69.

<sup>267</sup> *ibid.*, pg. 90.

<sup>268</sup> *ibid.*, pg. 155.

the number went up to 224. Likewise the number of private beds has increased from 1,171 beds to 9,547 beds for the same period an eight-fold increase. The NHMS II conducted in 1996 showed that out of pocket private health expenditure amounted to 61.57 percent of the total out-of-pocket expenditure. See Table 4.4 below. From the NHMS II urban population in Malaysia spent RM228 out-of-pocket health expenditure per capita whereas rural population spent only RM120 per capita. The growth of the private sector will inevitably raised health care cost. The issue of equity in terms of ability to pay for health care cost must be addressed.

<b>Table 4.4: Out-of- pocket Health Expenditure 1996</b>		
	Total Exp. (RM)	Percentage of total expenditure
<b>Whole population</b>	3,820 mil.	
Per capita	180	
Urban	2,690 mil.	70.42
Per capita	288	
Rural	1,130 mil.	29.58
Per capita	120	
Peninsular Malaysia	3140 mil.	82.20
Per capita	188	
<b>Government Facilities</b>		
Treatment & Transport	406 mil.	10.63
MOH clinics	85 mil.	2.23
MOH hospitalisation	63 mil.	1.65
MOH hosp. outpatient	258 mil.	6.75
Non MOH Facilities	41 mil.	1.07
<b>Private Facilities</b>	2,352 mil.	61.57
Private Clinics	1,200 mil.	31.41
Private Hospitalisation	465 mil.	12.17
Private Hosp. outpatient	687 mil.	17.99

*Source: National Health and Morbidity Survey II 1996*

A responsive health system is not just simply prescribing an alternative scheme to end the problem of the rising health care cost but to analyse carefully the performance of

the health system itself in terms of its equity and efficiency goals such as whether there has been any inefficiency in the distribution of resources that has contributed to the high cost and whether the equity goals should be reassessed in the light of new challenges that are affecting the health system.

The next few chapters will examine the allocation of health care resources by looking at the budgets and expenditure patterns over time and how these resources are distributed to meet the objectives of the health system.

## CHAPTER FIVE

### **Analysis of Malaysian government health budget allocation and expenditure.**

#### **1. Introduction**

The function of a health system must necessarily come from an intention to spend, to develop and to distribute its resources to the population at large according to their needs. However, no resources whether financial or otherwise is going to be infinitely without limits. Therefore, allocation of resources must be planned in order that the available resources are placed where the needs are and how it should be distributed to ensure equity and efficiency in the system. Basically, these are the core issues in any health care system faced by the countries in the world today.

The total resources or the availability of funds that can be allocated sets the limits on budgets for any new development and also for current expenditure. In almost all societies, the demand for health services exceeds the available resources. In such cases, priorities will have to be set for the goals and objectives that the health system will be expected to achieve. The costs of providing the services are quantified by the amount of expenditure allocated and spent in the health system. The provision of and the investment in its health services give the information on how the health care system operates. The allocation of funds and the investment pattern will show where the priorities lie, although there may be differences in prices for the different resources and areas of investments.



In countries with a hierarchical planning structure, resource allocation and investment planning are often incremental. Last year's budget is often the starting point for next year's planning and ongoing activities are usually not questioned. Roemer calls this type of approach attractive because of its simplicity but it demands growing budgets. All goes well when budgets keep increasing but however, if the reverse should take place, then the problems begin. Departments will have to scrutinize the full range of on-going programmes and activities; and prioritizing activities for possible cutting or elimination. Obviously such actions will have an impact on the health system, and more likely than not, it will be a negative one. Most public bureaucracies would look for the easier way out by trying to maintain the status quo by cutting costs across the board without changing overall priorities, and without taking special account of the need to protect targeted geographical areas or sub-groups of the population.

Normally, critical expenditures such as salaries are maintained but expenditures that do not immediately damage health system performance are cut down, for example, planned investments are delayed and ongoing constructions are left incomplete. Any decision to cut down on recurrent costs for maintenance, drugs, consumables and even long term investment in human and physical capital would eventually place a severe constrain on the capacity of human capital and health systems performance. Short term postponements or cutting of new investments or development may be an appropriate response to a crisis in the short run but such responses have to be looked at from the overall picture of capital and recurrent resources. Without these, any rash and abrupt cutting of planned investments will create imbalances and inefficiencies in the long run.

Health care expenditures have been on the increase amidst all the other competing needs. Spending more money in health care would mean spending less for other goods or services, and governments all over are developing strategies to contain costs. Increased costs in the health sector over the past decades have been on hospitals and specialist care which are the predominant investments in the health system. The focus on specialists' care entails investments in the employment and training of human resources to staff hospitals. Together with this is the rapid technological change which results in greater intensity of care and increasing costs. Higher utilisation also pushes up bed supplies and increases recurrent costs that support the increase in staff, beds, patients, consumables, drugs and etc.

Financial data is a convenient means needed by planners as well as decision-makers for examining options and establishing priorities among health services and other health related activities, particularly to weigh the costs against potential effects or benefits which include all sources for comprehensive assessment of total spending. In this chapter, the analysis would concentrate on the Malaysian public health budget allocation and expenditure. It will be a comparative study within the health system by comparing different time trends and to evaluate which health policy objectives are promoted or which is frustrated by analysing where the finance is put.

Any analysis of the Malaysian health budget allocations and expenditures must first involve at the least, statements of the general health policy for Malaysia. Without such a statement of intention and objective whether it comes in the form of a written document or a statement of intention of the government through the Health Minister or even through the health chapter of the national development plans, any action or inaction will be void of a

guide and direction. Throughout the three decades from 1970 to 2000, the policies of the MOH as the government's lead agency in the health sector are taken as national policies. The MOH's policies are reflected in the health chapter of the five-year development plans and the midterm reviews of the plans which are published by the Economic Planning Unit (EPU) as discussed in Chapter Three.

In line with the need to develop some policy statements, a document referred to as "Policies in Health" was drawn up. This effort was initiated by EPU of the Prime Minister's Department in 1994 by preparing a National Health Policy framework as a guide to MOH to draft a National Health Policy. The Planning and Development Division of the Ministry of Health took the responsibility of drafting various proposals and presented them at relevant meetings and conferences in which feedback and comments were received from the MOH Divisional and State Health Directors. A pro-tem committee was formed to refine the document. The proposal was also distributed to 37 other health and health related agencies including the private sector and NGOs. After much revision and refining of the document, it was finally presented to the Chief Secretary on 28<sup>th</sup> September 1999 and subsequently to the Minister of Health.

The final outcome was not to have a national health policy blueprint, but rather statements of policies in health which will focus on priority challenges and issues related to health. As health issues are constantly changing and so are decisions on health policies as new issues arise, it was only appropriate that such documents would not be rigidly binding but allow for modifications and changes should certain policies become irrelevant in the future and new policies are to be incorporated.

The set of Policies in Health focused on sixteen key areas confronting the Malaysian health sector, each policy statement with its own rationale. The sixteen key areas were as follows:-

1. equity
2. quality
3. health promotion
4. primary health care
5. disease control
6. environmental health
7. caring culture
8. health care technology
9. health information system
10. telehealth and information technology
11. planning and development of human resource
12. inter-sectoral collaboration
13. health care financing
14. research
15. role of the Ministry of Health
16. traditional/complementary medicine

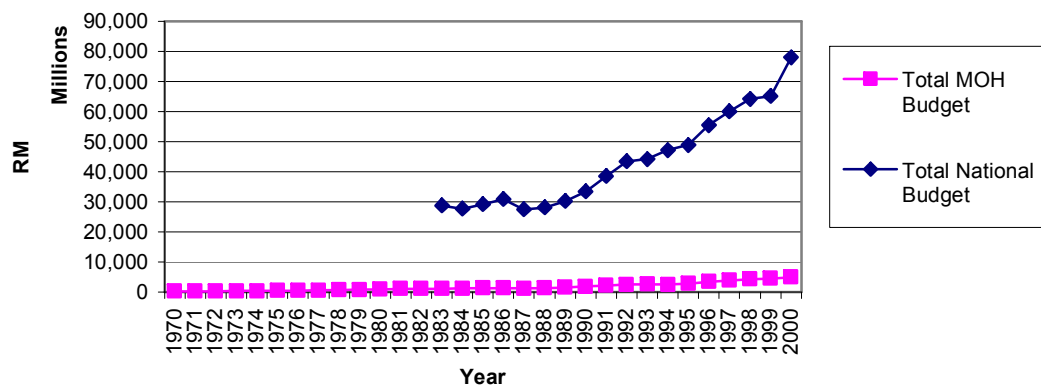
Policies in Health were only finalised in 1999 but the three decades prior to this, the health policies were documented mainly in all the health chapters of the five-year development plans which gave the direction for the nation as a whole with each sectoral policies and strategies supporting and complementing the national policy, for example, to promote national unity through its socio-economic strategies. Health care in Malaysia had a role to play in promoting national unity through its own equity objectives and goals. These were the primary objectives for all sectors including health from 1970 to 1979. Later from 1979 to 2000, after Malaysia became one of the member states of WHO in the Declaration of Alma Ata 1978, Malaysia was then committed to the target of “Health for All by the Year 2000” through its primary health services. Below are some of the national policies in Malaysia that have in one way or other impacted the direction of the health system in Malaysia.

1. New Economic Policy
2. New Development Policy
3. Malaysia towards a 70 Million Population
4. Malaysia Incorporated
5. Privatisation Master Plan
6. Vision 2020

## 2. Ministry of Health Malaysia budget

As far as the total federal government allocation to the health sector is concerned, in 1950 during the colonial administration, health took up 6.7 percent of the total national budget and in 2000 the health budget was 6.23 percent of the total national budget which was almost similar to what was allocated back in the 1950s in terms of percentage of the total federal budget. (See Table 2.2 and Table 5.1) Although the health budget was small compared to the other sectors in the social sector, this low allocation from the federal budget followed the historical pattern as health was not a high priority for the colonialists and also for the government of Malaysia after Independence.

**Chart 5.1 : Total MOH Budget to Total National Budget 1970-2000**



**Table 5.1: Allocation to MOH/Trend of MOH Financial Appropriation 1970-2000**

Year	Development Budget	% to Total	Operating Budget	% to Total	Total MOH Budget	% to Total Nat. Budget	Per Capita Allocation	GNP (million)	% of MOH Budget to GNP
1970	26,000,000	14.2	157,033,101	85.8	183,033,101	5.64	17	12155.0	1.51
1971	27,108,090	12.6	187,824,191	87.4	214,932,281				
1972	36,257,204	14.7	210,727,640	85.3	246,984,844				
1973	60,445,660	19.8	244,402,360	80.2	304,848,020				
1974	62,000,000	17.6	290,540,272	82.4	352,540,272				
1975	71,011,250	17.5	334,000,000	82.5	405,011,250	5.78	34	16916.0	2.39
1976	92,816,120	20.1	368,832,000	79.9	461,648,120	6.30	38	18828.0	2.45
1977	91,687,570	16.9	450,178,100	83.1	541,865,670	4.93	43	20194.0	2.68
1978	87,879,340	13.2	577,408,000	86.8	665,287,340	5.24	52	21601.0	3.08
1979	107,482,600	14.2	647,742,100	85.8	755,224,700	5.56	57	23518.0	3.21
1980	136,272,457	15.2	759,307,400	84.8	895,579,857	5.27	67	25402.0	3.53
1981	119,768,265	11.8	891,918,100	88.2	1,011,686,365	4.38	72	27342.9	3.70
1982	150,366,379	14.0	924,676,700	86.0	1,075,043,079	3.35	76	28216.4	3.81
1983	178,342,227	17.2	856,126,000	82.8	1,034,468,227	3.58	71	29640.9	3.49
1984	160,071,840	14.2	966,738,600	85.8	1,126,810,440	4.07	74	31475.2	3.58
1985	162,205,300	12.9	1,094,117,000	87.1	1,256,322,300	4.30	80	56340.0	2.23
1986	159,277,440	12.5	1,114,345,000	87.5	1,273,622,440	4.13	79	59515.1	2.14
1987	93,090,400	7.9	1,081,695,700	92.1	1,174,786,100	4.29	71	75306.8	1.56
1988	121,987,800	9.6	1,142,741,900	90.4	1,264,729,700	4.50	75	86036.0	1.47
1989	222,153,950	15.1	1,248,230,600	84.9	1,470,384,550	5.00	85	94863.5	1.55
1990	504,996,280	27.4	1,335,325,500	72.6	1,840,321,780	5.51	104	109543.0	1.68
1991	686,449,970	31.5	1,492,222,400	68.5	2,178,672,370	5.63	120	121713.5	1.79
1992	689,416,200	27.7	1,798,404,800	72.3	2,487,821,000	5.47	126	140531.0	1.77
1993	549,473,910	21.7	1,985,432,950	78.3	2,534,906,860	5.74	133	156941.0	1.62
1994	377,082,800	15.3	2,085,066,900	84.7	2,462,149,700	5.22	125	180861.0	1.36
1995	427,966,000	15.3	2,365,765,000	84.7	2,793,731,000	5.73	135	208118.0	1.34
1996	544,644,000	15.9	2,880,134,000	84.1	3,424,778,000	6.17	162	237912.0	1.44
1997	578,538,000	15.2	3,236,047,600	84.8	3,814,585,600	6.31	175	262193.0	1.45
1998^	743,186,000	17.5	3,494,774,000	82.5	4,237,960,000	6.61	191	172978.0	2.45
1999^	900,000,010	19.9	3,612,258,200	80.1	4,512,258,210	6.93	199	179057.9	2.52
2000^	908,153,000	18.4	4,023,162,300	81.6	4,931,315,300	6.32	212	191136.3	2.58

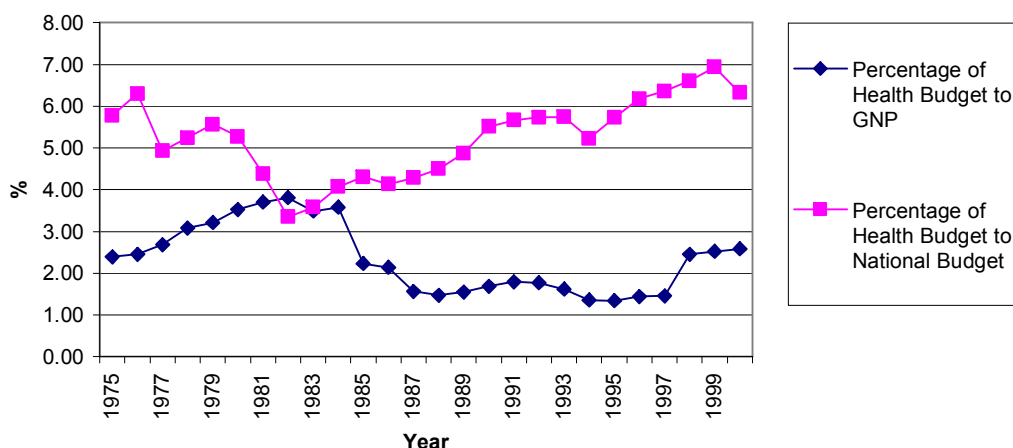
^Original Allocation

Source: MOH Annual Report for the respective years.

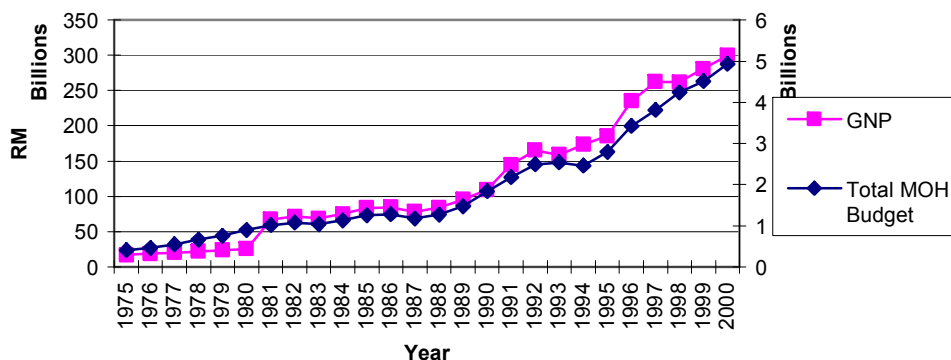
From Table 5.1 above, the percentage of the MOH budget to the national budget had always been below seven percent ranging from four percent to six percent the last three decades except for 1982-1983 when the proportion went below four percent. This trend

gave a very clear indication that the government policy in allocating funds to the health sector had not changed and it clearly followed a historical pattern.

**Chart 5.2 : Percentage of Health Budget to National Budget and GNP 1975-2000**



**Chart 5.3 : GNP and MOH Budget 1975-2000**



In Chart 5.2 above and Table 5.1, the MOH budget as a percentage to the GNP has remained low and it was consistently between 1 to 3 percent for the past thirty years. During the period from 1987 to 1997, the MOH budget was less than 2 percent of the GNP. Interestingly, the trend for the MOH budget as a percentage to the national budget had been gradually increasing since 1982 whereas for MOH budget as a percentage to GNP seemed to go on a downward trend instead from 1982 until 1997 before improving to more than 2

percent. See Chart 5.2. Although in nominal terms, the MOH budget had increased but as a percentage to GNP, it was still very low. This trend was similar to most developing countries. Since this data only covered the MOH budget, the private sector health expenditure was not included; therefore, this small percentage did not reflect the real scenario of the total health sector expenditure. Therefore, it could not be used for international comparisons.

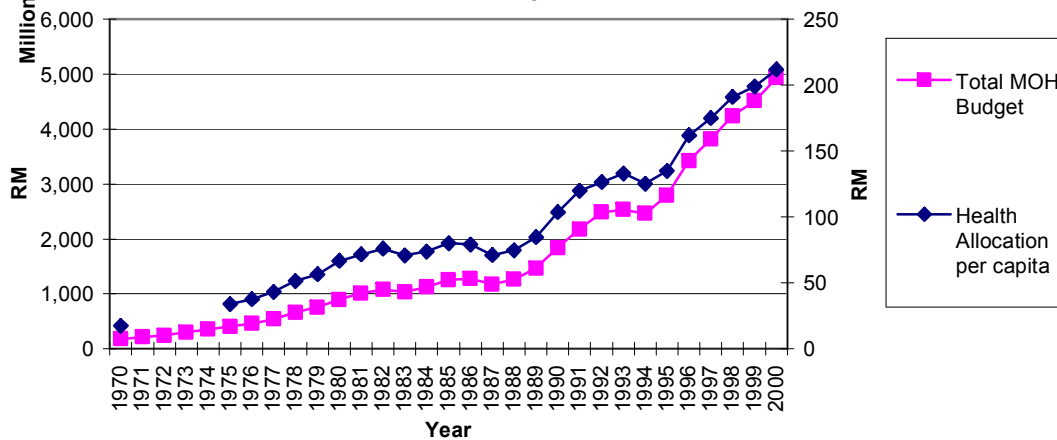
In Chart 5.3 above, there is a similar trend of increase for GNP and the MOH budget. This shows that the growth of the public health sector followed the growth of GNP very closely. This is quite typical in any economy as the country progresses, the public budget followed and in this case even the public health budget followed the trend very closely to that of the country's GNP's growth. One could expect the reverse would be the same too. Similarly, the health allocation per capita also followed the same trend as the total public health budget. See Chart 5.4 below. For the period from 1970 to 2000, the total MOH budget had increased almost 27 times and the health allocation per capita 12 times for the same period. Health allocation per capita only showed how much was spent per head but it may not show equity in the distribution of resources per head unless the allocation per capita is differentiated by region, states or between urban and rural dwellers.

In Chart 5.5 below, in nominal terms the operating budget had increased much higher than the development expenditure. However, from Table 5.2 below, the increase for operating budget was 25.6 times over the period of thirty years from 1970-2000 whereas the development budget increased by more than 34.9 times for the same period. The

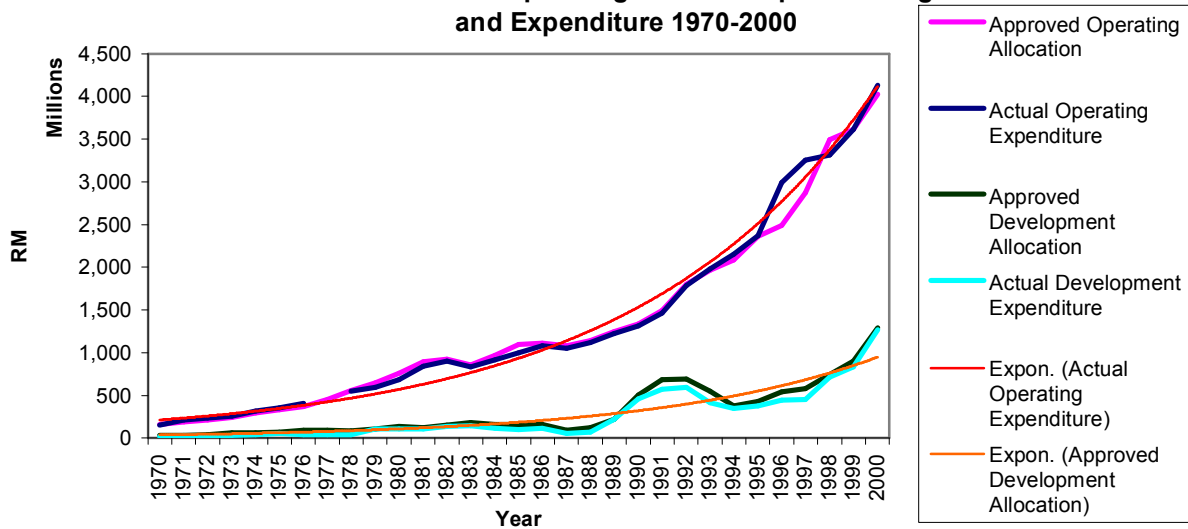


operating budget was five times more than the development budget in 2000.

**Chart 5.4 : Total Health Budget and Health Allocation Per Capita 1970-2000**



**Chart 5.5 : MOH Operating and Development Budget and Expenditure 1970-2000**



The operating budget remained at about an average of 85 percent of the total MOH budget; except for 1991 where the allocation was only 68 percent. Simultaneously, the development budget was around 15 to 20 percent except for 1987 and 1988; the allocation went down to 7.9 percent and 9.7 percent respectively of the total budget.

**Table 5.2: Annual Estimates of the Development and Operating Budget of the Ministry of Health 1970-2000**

Year	Development Budget	% of Dev. Budget to Total	Operating Budget	% of Operating Budget to Total	Total Health Budget
1970	26,000,000	14.21	157,033,101	85.79	183,033,101
1971	27,108,090	12.61	187,824,191	87.39	214,932,281
1972	36,257,204	14.68	210,727,640	85.32	246,984,844
1973	60,445,660	19.83	244,402,360	80.17	304,848,020
1974	62,000,000	17.59	290,540,272	82.41	352,540,272
1975	71,011,250	17.53	334,000,000	82.47	405,011,250
1976	92,816,120	20.11	368,832,000	79.89	461,648,120
1977	91,687,570	16.92	450,178,100	83.08	541,865,670
1978	87,879,340	13.21	577,408,000	86.79	665,287,340
1979	107,482,600	14.23	647,742,100	85.77	755,224,700
1980*	136,272,457	15.22	759,307,400	84.78	895,579,857
1981	119,768,265	11.84	891,918,100	88.16	1,011,686,365
1982	150,366,379	13.99	924,676,700	86.01	1,075,043,079
1983	178,342,227	17.24	856,126,000	82.76	1,034,468,227
1984	160,071,840	14.21	966,738,600	85.79	1,126,810,440
1985	162,205,300	12.91	1,094,117,000	87.09	1,256,322,300
1986	159,277,440	12.51	1,114,345,000	87.49	1,273,622,440
1987	93,090,400	7.92	1,081,695,700	92.08	1,174,786,100
1988	121,987,800	9.65	1,142,741,900	90.35	1,264,729,700
1989*	222,153,950	15.11	1,248,230,600	84.89	1,470,384,550
1990*	504,996,280	27.44	1,335,325,500	72.56	1,840,321,780
1991*	686,449,970	31.51	1,492,222,400	68.49	2,178,672,370
1992*	689,416,200	27.71	1,798,404,800	72.29	2,487,821,000
1993*	549,473,910	21.68	1,985,432,950	78.32	2,534,906,860
1994*	377,082,800	15.32	2,085,066,900	84.68	2,462,149,700
1995*	427,966,000	15.32	2,365,765,000	84.68	2,793,731,000
1996*	544,644,000	15.90	2,880,134,000	84.10	3,424,778,000
1997*	578,538,000	15.17	3,236,047,600	84.83	3,814,585,600
1998	743,186,000	17.54	3,494,774,000	82.46	4,237,960,000
1999	900,000,010	19.95	3,612,258,200	80.05	4,512,258,210
2000*	908,153,000	18.42	4,023,162,300	81.58	4,931,315,300

\* Inclusive of supplementary allocation, the rest are based on original allocation.

Sources: *Federal Budget, Treasury Economic Reports, Ministry of Health Annual Reports and Reports from the Finance Division, MOH for the respective years.*

<b>Table 5.3 : Ministry of Health Development Allocation and Expenditure 1970-2000</b>			
Year	Approved Allocation	Actual Expenditure	% of Expenditure to Allocation
1969	35,373,608	24,146,190*	
1970	31,000,020	20,319,315	65.55
1971	34,778,900	22,578,645	64.92
1972	36,257,204	26,955,772	74.35
1973	60,445,660	34,529,489	57.12
1974	62,000,000	41,383,669	66.75
1975	71,011,250	55,514,941	78.18
1976	92,816,120	42,956,709	46.28
1977	91,687,570	40,889,088	44.60
1978	87,879,340	42,660,251	48.54
1979	107,482,600	104,963,880	97.66
1980	136,272,457	108,542,435	79.65
1981	119,768,275	107,785,252	89.99
1982	150,366,379	138,393,435	92.04
1983	178,342,227	146,650,119	82.23
1984	160,071,850	117,875,145	73.64
1985	162,205,300	102,152,057	62.98
1986	159,277,440	116,646,144	73.23
1987	93,090,400	51,097,014	54.89
1988	121,987,800	66,833,590	54.79
1989	222,153,950	218,417,682	98.32
1990	504,996,280	459,518,426	90.99
1991	686,449,970	568,816,764	82.86
1992	689,416,200	595,486,267	86.38
1993	549,473,910	417,113,497	75.91
1994	377,082,800	345,301,710	91.57
1995	427,966,000	376,440,688	87.96
1996	544,644,000	447,034,359	82.08
1997	578,538,000	448,583,929	77.54
1998	743,186,000	716,229,385	96.37
1999	900,000,000	835,426,034	92.83

\* Prior to January 1971, the Sabah Medical Services is under the State Government. The total Development Expenses for 1969 & 1970 includes a sum of RM5,803,588 & RM5,000,000 financed by the State Government respectively.

Source: Ministry of Health Annual Report and Report from the Finance Division, Ministry of Health for the respective years and computed from data of the above.

This decrease was due to the economic slowdown and it was the same for development expenditure; the shortfall was quite significant at 54.89 percent and 54.79 percent of the total allocation given for 1987 and 1988 respectively. See Table 5.3 above. Besides these two years, from 1976-1978 there was another shortfall where less than fifty percent of the development allocation was spent. On the whole, generally, the government did not make any radical changes in the pattern of public health expenditure for the last thirty years from 1970 to 2000. The proportions for operating and development budgets were almost the same throughout that period except for the adjustment due to the economic slowdown in the country.

### 3. Ministry of Health operating budget allocation and expenditure

**Chart 5.6 : MOH Operating Budget and Expenditure  
1970-2000**

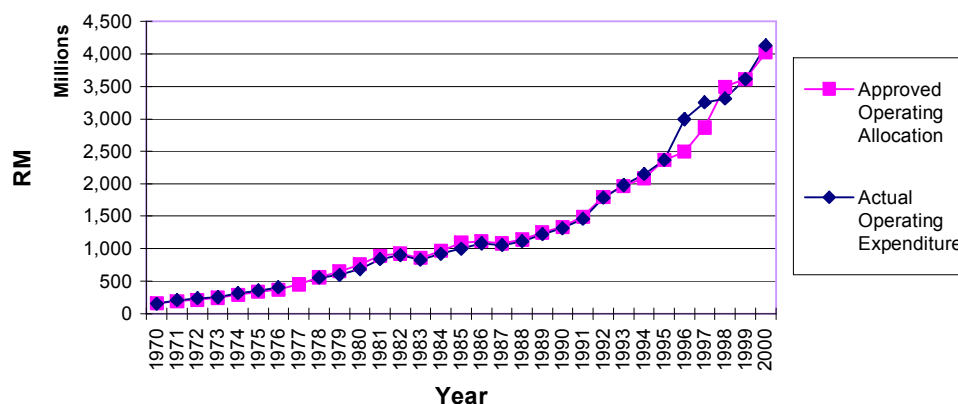


Chart 5.6 above shows that operating expenditure followed very closely with the allocation given except in 1996 and 1997. The gap during these two years was quite significant in nominal terms as the expenditure burst the budget for 1996 by RM114.9 million and for 1997 by RM18.6 million. This over expenditure was the result of the New

Remuneration Scheme<sup>269</sup> salary adjustment and payment of bonuses for public servants<sup>270</sup> as announced in the 1997 budget. In 1997 MOH incurred an expenditure of RM469 million for the privatization of support services<sup>271</sup> and in 1998, MOH has to pay for the service tax imposed on the concession companies for the hospital services.<sup>272</sup> Besides this, there was also an overall increase in the costs of drugs and medical consumables as a result of price increases,<sup>273</sup> expansion of various public health campaigns, introduction of advanced telecommunications and medical equipment, expansion of health facilities and modern medical technologies, and increase in support for non-governmental organisations such as the National Cancer Council, Mawar Haemodialysis Centre and the National AIDS Council.<sup>274 275</sup> In 1998 MOH provided a 16 percent increase of allocation towards the purchase of drugs and other consumables<sup>276</sup> as this was the year due for drug price negotiation.

In terms of the percentage of expenditure to allocation, Table 5.4 below shows that between 1971-1976, 1993-1997 and 2000, the operating expenditure exceeded allocation with the highest recorded in 1996 which exceeded by 20 percent of the total allocation. Malaysia was experiencing a revival in the economy in the early seventies and the public sector expenditure on the whole exerted a strong expansionary impact growth in the domestic economy from 1972 onwards. It came as no surprise that the public health sector

---

<sup>269</sup> The New Remuneration Scheme for all Government servants was introduced in 1992 to replace the old salary scheme under the Cabinet Committee of 1976. However, the payout of the backdated salary took stages to implement.

<sup>270</sup> Ministry of Health, Annual Report 1997, pg. 20.

<sup>271</sup> *ibid.*, pg. 22.

<sup>272</sup> Ministry of Health, Annual Report 1998, pg. 21.

<sup>273</sup> The Government Medical Store was privatised in 1993 and price of drugs are determined by the privatised company Remedi Pharmaceuticals Sdn.Bhd.

<sup>274</sup> Ministry of Health Annual Report 1996, pg. 20.

<sup>275</sup> Ministry of Health Annual Report 1997, pg. 22.

<sup>276</sup> Ministry of Health Annual Report 1997, pg. 21.

at that time took the opportunity to expand its facilities and services especially the rural health services.

At the same time health care in Sabah, being the last state to come under the administration of the federal government in 1970 made the MOH fully responsible for health care of the population throughout the whole country. It was also during this period that specialised services were made available in general hospitals and basic medical services were made available in remote areas of the country for greater accessibility. New district hospitals were also established and preventive health measures to eradicate diseases were promoted through special public health programmes. There was an extensive layout of medical and health facilities to extend coverage so that facilities would be located within convenient reach of the population. In just five years from 1970 to 1975, the operating expenditure increased by more than double from RM155 million to RM355 million. See Table 5.4. This trend was also similar for the development expenditure which expanded from RM20 million to RM56 million for the same period. See Table 5.3.

When the recession started setting in, in the late 70s, things were not moving as quickly as before. The rate of increase for operating expenditure was slower in the eighties especially during the recession years in 1987 and 1988 and when the economy picked up again, the expenditure also increased and again declined in 1997 and 1998 when Malaysia was facing another financial crisis. The rate of change in both the operating allocation and expenditure followed the cyclical pattern of the country's economy as shown in Chart 5.7.

**Table 5.4: MOH Operating Allocation and Expenditure 1970-2000**

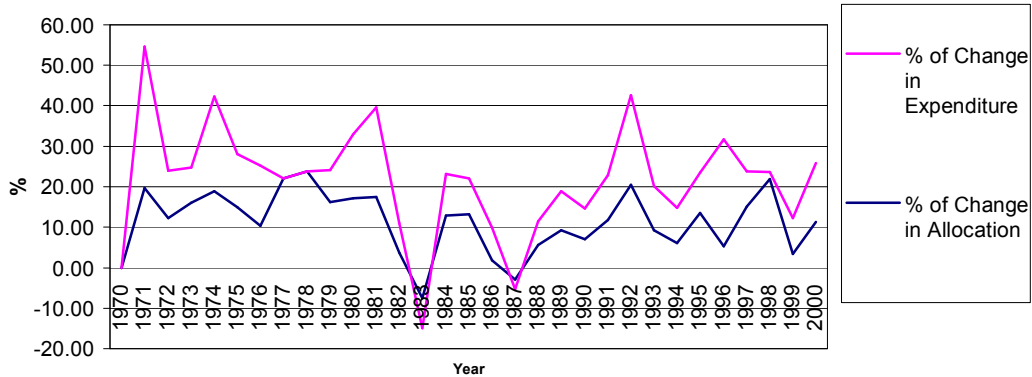
YEAR	Approved Allocation	Actual Expenditure	% of Expenditure to Allocation
1969	149,555,328	139,233,325	
1970	157,033,101	154,816,415 <sup>^</sup>	98.59
1971	187,824,191	209,096,047	111.33
1972	210,727,640	233,773,333	110.94
1973	244,402,360	254,081,120	103.96
1974	290,540,272	313,675,323	107.96
1975	334,000,000	354,719,253	106.20
1976	368,832,000	406,948,203	110.33
1977	450,178,100	N.A.	N.A.
1978	557,408,000	549,992,000	98.67
1979	647,742,100	593,709,000	91.66
1980	759,307,400	686,787,560	90.45
1981	891,918,100	838,980,499	94.06
1982	924,676,700	899,902,115	97.32
1983	856,126,000	831,900,720	97.17
1984	966,738,600	917,654,586	94.92
1985	1,094,117,000	999,686,834	91.37
1986	1,114,345,000	1,080,362,231	96.95
1987	1,081,695,700	1,054,500,000	97.49
1988	1,142,741,900	1,115,600,000	97.62
1989*	1,248,230,600	1,223,100,000	97.99
1990*	1,335,325,500	1,316,100,000	98.56
1991*	1,492,222,400	1,463,000,000	98.04
1992*	1,798,404,800	1,786,318,544	99.33
1993*	1,985,432,950	1,981,024,422	100.84
1994*	2,085,065,900	2,152,535,554	103.24
1995*	2,365,765,000	2,368,928,303	100.13
1996*	2,880,134,000	2,995,014,987	120.19
1997*	3,236,047,600	3,254,621,240	113.46
1998*	3,359,401,120	3,313,870,815	94.82
1999	3,612,258,200	3,610,832,055	99.96
2000	4,023,162,300	4,131,017,483	102.68

\* Inclusive of supplementary allocation, the rest are based on original allocation.

<sup>^</sup> Excluding Sabah.

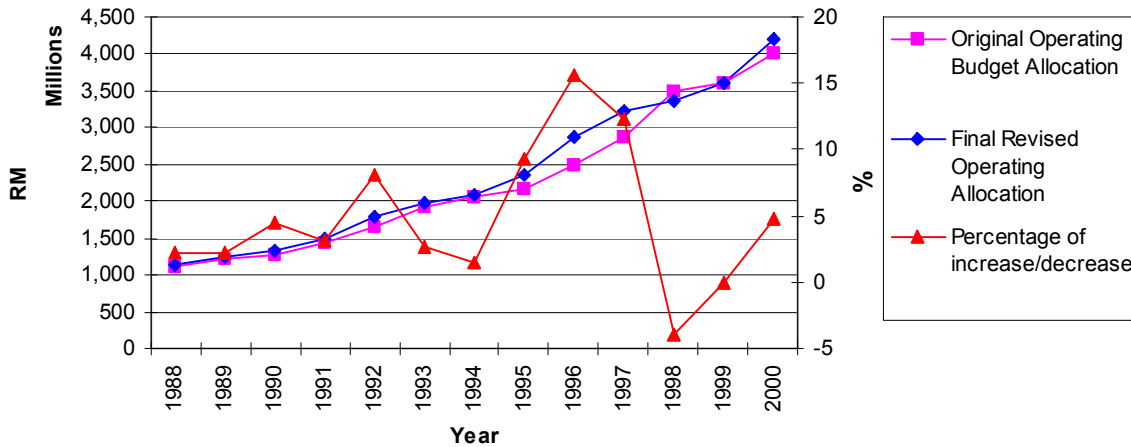
Source: Ministry of Health Annual Report and Report from the Finance Division, Ministry of Health for the respective years.

**Chart 5.7 : Annual Percentage of Change in Allocation and Expenditure For MOH Operating Expenses 1970-2000**



In Chart 5.7, the pattern of the percentage of annual change in expenditure also followed very closely with the pattern in allocation except for 1996 when the change in

**Chart 5.8 : MOH Revised Operating Budget Allocation 1988-2000**



expenditure was inversely against the change in allocation.

Prior to 1988, the Ministry of Finance gave a certain allocation to each ministry representing the sector they were responsible for at the beginning of the year and no revision was done but from 1988 onwards, there had been a change in the financial allocation whereby the ministry concerned was allowed to request for supplementary allocation for any recurrent expenses for which they have committed but were unable to



pay due to insufficient funds. The Ministry of Health took advantage of this and appropriated the supplementary allocation from 1988 onwards except for 1999.

There were occasions where the initial allocation was reduced and later given back during the later part of the year. This happened in 1998 where the initial allocation was trimmed down from RM4.2 billion to RM3.7 billion at the beginning of the year as part of the government's measures to reduce public spending during the economic down turn. However, in the middle of the year the allocation was increased to RM4.1 billion after a change in the government's fiscal policy. From Chart 5.8 above and Table 5.5, the increase

**Table 5.5: Additional Supplementary Allocation for Operating Expenses 1988-2000**

Year	Original Operating Budget Allocation	Supplementary Allocation	Final Revised Operating Allocation	% of change
1988	1,117,411,900	25,330,000	1,142,741,900	2.27
1989	1,221,630,600	26,600,000	1,248,230,600	2.18
1990	1,278,135,000	57,190,500	1,335,325,500	4.47
1991	1,446,500,400	45,722,000	1,492,222,400	3.16
1992	1,663,262,400	135,142,400	1,798,404,800	8.13
1993	1,932,917,800	52,515,150	1,985,432,950	2.72
1994	2,053,442,100	31,623,800	2,085,065,900	1.54
1995	2,165,265,000	200,500,000	2,365,765,000	9.26
1996	2,491,915,000	388,219,000	2,880,134,000	15.58
1997	2,868,400,000	351,467,600	3,219,867,600	12.25
1998	3,494,774,000	-135,372,880	3,359,401,120	-3.87
1999	3,612,258,200	0	3,612,258,200	0.00
2000	4,023,162,300	190,699,700	4,213,862,000	4.74

*Source: Ministry of Health Annual Report and Report from the Finance Division, Ministry of Health for the respective years.*

or decrease in the supplementary allocation could be very significant, for example, in 1996 the increase was 15.58 percent of the original allocation and in 1998 the decrease was a 3.87 percent reduction of the original allocation. Although there seemed to be some flexibility in terms of getting additional funds during the year, it could also cause a lot

uncertainties if something should happen to the financial situation of the country. Any abrupt cut from the budget would be detrimental to the delivery of its services.

The situation worsened during the Asian financial crisis which hit several Asian economies in 1997. Malaysia also suffered a decline in growth rates in the late 1990s where the currency of the country depreciated against the US dollar which led to capital outflow, bankruptcy and unemployment and this crisis spread into income, expenditures and growth rates which became an economic crisis that impacted all sectors of the economy. The poor were the most vulnerable to such economic crises as the relationship between income and health is a positive one and such crises exacerbate the health problems of the poor.<sup>277</sup>

Malaysia was affected by the crisis in which the Malaysian ringgit depreciated by 17 percent in August 1997. Unlike her neighbours Thailand and Indonesia, Malaysia refused IMF assistance but chose to control its capital movement by fixing the ringgit to the US dollar and restricted currency conversion against further depreciation of the ringgit. This radical policy had successfully brought Malaysia out of the financial crisis without IMF assistance. Even with this policy Malaysia was not spared the impact of the crisis resulting in a 7.4 percent decline in GDP in 1998 and 6.1 % in 1999; unemployment rate went up to 3.9 percent compared to 2.7 percent in 1997; and household final consumption expenditure decreased by 10.2 percent in 1998.<sup>278</sup>

---

<sup>277</sup> Hopkins S. *Health Policy*, 2006 Feb; 75(3):347-57.

<sup>278</sup> *ibid.*

In 1998 due to the economic recession, many Malaysians as well as non-citizens were unable to pay for their health care due to the decline in real household income which resulted in a decline in household health expenditure. This was clearly shown through the reduction of visits to private health care facilities and an increase of 18 percent more patients in public facilities. During this period the government was also taking measures to reduce public spending. The original health budget for 1997 and 1998 was reduced as shown in Table 5.5 and 5.6. Both the operating and the development budgets were cut during these two years, however, in the middle of 1998, after a reversal of fiscal policy, the health budget was increased again but the increase was still below what was originally allocated. This reduction was clearly shown in 1998 where the development budget was reduced by 18 percent and operating budget reduced by 12 percent.<sup>279</sup> Due to the budgetary controls by the Federal Treasury, allocations for overtime and traveling expenses were reduced, policies on admission, discharging and prescribing were reviewed to improve the efficiency and reduce expenditures in the hospitals in line with the government's austerity measures taken to revitalize the economy that was affected by the financial crisis in the region.<sup>280</sup>

Looking at the trends of expenditure allocated for health over the years, in nominal terms, the allocation had increased but as a percentage of the GNP, it remained quite constant. So long as the economy of the country was doing well, the tax-based system was still workable and sustainable but the economical cycle was unpredictable and the demand for better quality care also kept the cost up. Due to the improved standard of living; the

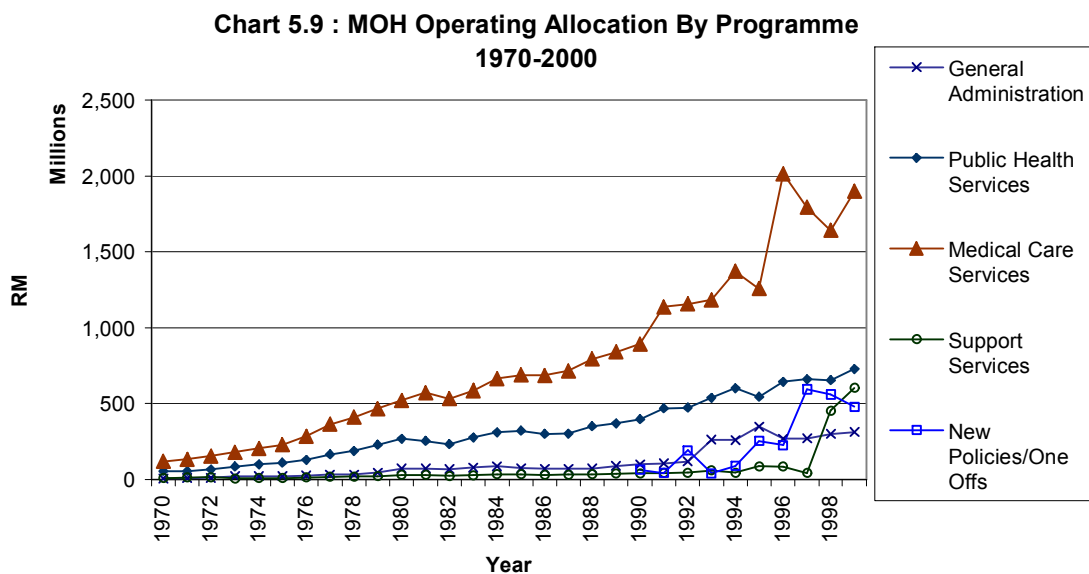
---

<sup>279</sup> Ministry of Health Annual Report 1998, pg. 20

<sup>280</sup> *ibid*, pg. 23.

rising consumer demands and expectations for high technology and high cost medical care; changing disease pattern from communicable to non-communicable degenerative chronic diseases; and demographic changes such as aging have brought about the need to meet these challenges through more cost-efficient and quality health care. The government was looking for alternative financing away from the tax-based financing which was straining the government budget.

Where the money is distributed will determine where the priority is. Chart 5.9 below shows that the operating allocation was distributed among the four main programmes of the MOH, namely, general administration, public health services, medical care services and support services. All programmes showed a gradual rise in the allocation of operating budget but the allocation for medical services was more substantial with a steeper gradient. Medical care services took up the largest bulk of the operating budget and it has been very consistent from 1970 to 1990 averaging about 62.2 percent of the total operating budget.



Although in terms of percentage to the total operating budget it remained almost the same, in nominal terms the amount was very substantial. However, the pattern changed after

1990 where the percentage of allocation went on a downward trend from 59.7 percent in 1991 to 47.2 percent in 2000. See Chart 5.10 and Table 5.6 below.

Year	General Administration	Public Health Services	Medical Care Services	Support Services	New Policies/ One Off
1970	4.26	28.21	62.85	4.68	
1971	3.62	29.00	63.18	4.20	
1972	4.43	25.72	63.67	6.19	
1973	3.96	26.99	63.07	5.98	
1974	7.44	28.98	61.49	2.10	
1975	6.51	29.81	61.08	2.60	
1976	6.00	29.54	61.93	2.52	
1977	5.51	28.68	63.20	2.61	
1978	5.55	28.66	62.94	2.85	
1979	4.81	29.09	63.18	2.92	
1980	5.82	29.97	61.43	2.78	
1981	8.09	30.12	58.44	3.34	
1982	7.76	27.37	61.74	3.13	
1983	7.89	27.20	62.10	2.81	
1984	8.02	28.53	60.58	2.87	
1985	7.91	28.32	60.68	3.10	
1986	6.64	28.87	61.55	2.95	
1987	6.43	27.70	63.21	2.66	
1988	6.15	27.06	63.95	2.84	
1989	5.82	28.05	63.41	2.72	
1990	6.65	27.71	62.85	2.79	
1991	6.69	26.63	59.70	2.71	4.27
1992	5.82	26.11	63.28	2.38	2.40
1993	5.97	23.86	58.23	2.22	9.72
1994	12.56	25.87	56.80	2.87	1.90
1995	11.00	25.34	58.02	1.85	3.79
1996	13.99	21.88	50.50	3.45	10.18
1997	8.31	19.84	62.23	2.64	6.98
1998	8.04	19.61	53.41	1.28	17.66
1999	8.32	18.09	45.48	12.60	15.51
2000	7.79	18.09	47.22	14.95	11.94

*Source: Computed from data in the Ministry of Health Annual Report for the respective years.*

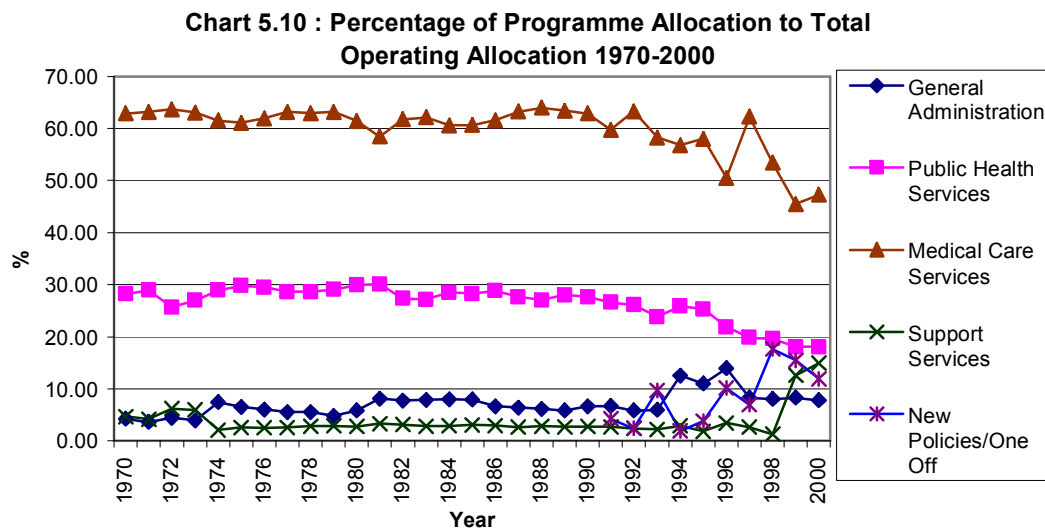
Chart 5.10 shows that all the four programmes received a consistent share of the allocation from 1970 to 1990, the trend lines were almost parallel for all the programmes but the change came after 1990 and when allocation was distributed to five programmes instead of four with the addition of new policies/one-offs. One-offs are expenditures that are not recurrent but a one-time expenditure. A new policy is an activity or project that is proposed for implementation but it has not been included into the budget as a recurrent expenditure yet. These additional programmes allow for flexibility and any new changes that may require extra allocation.

The proportion of operating allocation for support services went up from 4.68 percent to 14.95 percent in 2000 which was the highest increase, followed by new policies/one-offs from 4.27 percent in 1991 to 11.94 percent in 2000. General administration only increased from 4.26 percent to 7.79 percent. The programmes that had a reduced share were medical care services from 62.85 percent to 47.22 percent and public health services from 28.21 percent to 18.09 percent. Their portion were distributed to new policies/one-offs, support services and general administration although not evenly. Support services received an increase in allocation ten times more in 1999 and 2000. This was due to the privatisation of hospital support services which had been transferred from the medical care programme to the support services programme. This decrease for medical care services was reasonable as the hospitals' five support services were privatised in 1997. In 1999, a total amount of RM520 million was transferred from the medical programme to the technical and support services programme.<sup>281</sup>

---

<sup>281</sup> MOH Annual Report 1999, pg.23

An interesting observation was that public health services also had a reduced share. In nominal terms the amount allocated for public health services had increased gradually though not as much as for medical care services. The government was realigning its priorities where the money was no longer distributed strictly according to the historical pattern but putting where the need arose through the new policies/one-off programmes



which took up a large amount of the allocation especially from 1998-2000. The biggest increase throughout the 30 year period from 1970 to 1999 went to the support services after the privatisation of the hospital support services which was 79 times more than the expenditure since 1970 otherwise the increase would only have been about six times from 1970 to 1998 before the transfer. The second largest increase in expenditure went to general administration with an increase of 43.2 times from 1970 to 1999. Medical care and public health services each had an increase of 19 times and 16 times respectively for the same period. It is quite clear that privatisation had increased the cost for support services and administration costs.

Although a lot of emphasis was given to promote preventive care and to expand the public health services, data on spending showed that the increase was only 16 times more. If how much was being spent reflected the intention of where the health policy objective was promoted, then this trend did not show that public health care was being promoted vigorously. But there was also consideration like the low cost public health services as opposed to the high cost medical care services. This does not indicate the efficiency of the service and the equitable distribution of the resources which will be further discussed in the next chapter.

The actual expenditure of operating budget performed very well for the last 30 years. The percentage of operating expenditure over allocation had been above 90 percent and in some years it went above the budget given. See Table 5.7 below. This is quite common for any recurrent budget as recurrent budget is the day-to-day running expenditure that needed to be spent whether there are patients or not, for example, salary for staff, drugs, utilities, maintenance and etc. Probably, in order not to burst the budget, proper planning is necessary especially when a new facility is built and ready for operation. Planning for such operating costs need to be planned in advance.

As far as the percentage of annual change in operating expenditure was concerned, the increase or decrease in expenditure tied-in very closely with the economic cycle of the country. In 1983 and 1987 in the midst of the recession, operating expenditure declined to -5.8 percent and -2.4 percent respectively and the same effect also happened from 1997 to 1998 where the percentage of change was only 1.8 percent. This was in contrast to the increase in expenditure from year-to-year averaging about 8-10 percent and it also went up



as high as 36 percent in 1971 and 26 percent in 1996. See Table 5.8 below. It was clear that when the decrease in expenditure took place, all programmes were equally affected.

Year	General Administration	Public Health Services	Medical Care Services	Support Services	New Policies/ One Off	Total
1970	97.28	101.68	97.25	98.94		98.58
1971	142.09	125.65	99.77	159.80		111.33
1972	102.95	111.36	112.13	102.58		110.94
1973	105.97	107.01	102.54	103.82		103.96
1974	94.17	106.01	110.55	108.14		107.96
1975	92.75	101.44	109.97	105.94		106.20
1976	97.76	105.22	114.30	102.76		110.33
1977						
1978						
1979						
1980	89.17	84.69	93.12	97.03		90.47
1981	87.20	87.24	99.10	83.89		94.06
1982	94.00	92.85	96.78	96.49		95.48
1983	95.25	95.90	97.77	101.65		97.17
1984	83.16	93.35	97.24	94.58		94.92
1985	76.97	91.70	93.26	88.07		91.37
1986	92.90	95.19	98.28	95.65		96.95
1987	96.14	95.49	98.44	99.03		97.49
1988	97.31	100.78	100.00	93.59		99.86
1989	93.16	97.74	98.80	92.91		98.01
1990	87.40	98.55	98.83	90.79		98.56
1991	98.81	98.53	99.00	91.41		98.04
1992	97.22	100.20	99.53	98.98		99.33
1993	99.00	100.66	99.49	99.68		99.78
1994	106.23	100.05	104.86	94.58	91.25	103.23
1995	98.74	98.92	102.17	95.52		100.13
1996						120.19
1997						100.57
1998	97.82	99.97	99.39	96.09	95.48	98.64
1999	93.55	112.80	112.01	126.27	31.71	99.96
2000						102.68

*Source: Computed from data in the Ministry of Health Annual Report for the respective years.*  
 Note: The missing data show that the actual numbers were not recorded in the reports and therefore the percentages could not be computed.

<b>Table 5.8: Percentage of Annual Change in Operating Expenditure by Programme 1971-2000</b>						
Year	General Administration	Public Health Services	Medical Care Services	Support Services	New Policies/ One off	Total
1971	48.74	51.90	23.34	73.19		35.06
1972	-0.67	-11.82	27.08	6.13		11.80
1973	6.78	16.98	5.06	13.43		8.69
1974	98.33	26.42	24.94	-56.49		23.45
1975	-0.91	13.18	13.60	39.45		13.08
1976	7.37	13.48	16.38	3.98		14.72
1977						
1978						
1979						
1980						
1981	59.72	21.61	18.92	22.23		22.12
1982	7.15	0.26	6.96	11.61		5.24
1983	-4.59	-4.96	-5.94	-12.25		-5.77
1984	0.24	15.29	9.56	7.10		10.31
1985	3.22	10.34	8.72	13.95		8.94
1986	3.25	7.78	8.87	5.06		8.07
1987	-2.79	-6.57	-0.14	-9.12		-2.39
1988	0.09	6.50	6.16	4.28		5.82
1989	1.15	12.33	9.44	6.00		9.64
1990	14.78	6.54	6.07	7.14		7.57
1991	27.01	7.39	6.33	9.44	409.21	11.16
1992	3.21	20.19	28.42	14.78	-27.79	22.10
1993	15.29	1.33	1.56	3.58	395.05	10.90
1994	137.05	13.19	7.97	28.75	-81.26	8.66
1995	-7.62	9.87	12.92	-26.22	107.21	10.05
1996						26.43
1997						8.67
1998						1.82
1999	6.42	11.96	3.19	1289.02	-68.65	8.96
2000						14.41

*Source: Computed from data in the Ministry of Health Annual Report for the respective years.*  
Note: The missing data show that the actual numbers were not recorded in the reports and therefore the percentages could not be computed.

Table 5.9 below gives a further breakdown of the programmes and the operating allocation for each programme which had been very consistent as a percentage of the total allocation throughout the 30-year period without many radical changes except for the

engineering programme which was a component under support services as mentioned earlier.

**Table 5.9: Percentage of Programme Allocation to Total Operating Allocation 1974-2000**

Year	General Admin.	Public Health	Medical	Dental	Training	Pharmacy	Research	Planning	Engineering	New Policies/ One Off
1974	3.92	23.50	61.49	5.47	3.52	0.93	1.17			
1975	3.41	24.43	61.08	5.39	3.10	1.27	1.17	0.16		
1976	3.36	24.22	61.93	5.32	2.64	1.25	1.12	0.15		
1977	3.04	23.58	63.20	5.10	2.47	1.52	0.95	0.15		
1978	2.98	23.65	62.94	5.02	2.57	1.72	0.98	0.15		
1979	2.21	23.45	63.18	5.64	2.60	1.84	0.93	0.15		
1980	2.44	24.64	61.43	5.33	3.38	1.70	0.92	0.15		
1981	2.75	24.75	58.44	5.37	5.34	2.20	0.86	0.17	0.11	
1982	2.57	22.25	61.74	5.11	5.19	1.99	0.92	0.14	0.08	
1983	2.74	22.22	62.10	4.98	5.15	1.71	0.90	0.15	0.06	
1984	2.67	23.23	60.58	5.30	5.35	1.70	0.93	0.17	0.08	
1985	2.63	22.64	60.68	5.68	5.28	1.92	0.93	0.16	0.10	
1986	2.42	23.37	61.55	5.49	4.22	1.78	0.96	0.12	0.09	
1987	2.40	22.35	63.21	5.35	4.03	1.74	0.73	0.11	0.08	
1988	2.31	21.56	63.95	5.49	3.84	1.77	0.87	0.12	0.08	
1989	2.35	22.75	63.41	5.30	3.47	1.58	0.94	0.11	0.09	
1990	2.48	22.26	62.85	5.44	4.17	1.67	0.95	0.08	0.09	
1991	3.25	21.45	59.70	5.18	3.44	1.67	0.81	0.14	0.09	4.27
1992	2.43	20.92	63.28	5.20	3.39	1.38	0.80	0.12	0.09	2.40
1993	2.54	19.18	58.23	4.68	3.43	1.24	0.77	0.12	0.09	9.72
1994	7.03	22.21	54.77	4.56	4.86	1.08	0.80	0.11	0.73	3.64
1995	4.45	21.29	57.09	5.38	4.87	0.82	0.76	0.11	0.14	4.91
1996	9.67	18.31	50.50	3.57	4.33	0.67	0.65	0.10	1.92	10.18
1997	8.70	15.42	44.66	3.08	4.38	0.48	0.56	0.09	1.60	20.95
1998	9.31	15.96	47.39	2.97	3.76	0.42	0.50	0.08	1.12	18.37
1999	5.23	17.10	53.94	3.33	3.64	0.47	0.44	0.12	15.64	0.00
2000	4.68	15.18	47.22	2.91	3.12	0.42	0.36	0.11	13.97	11.94

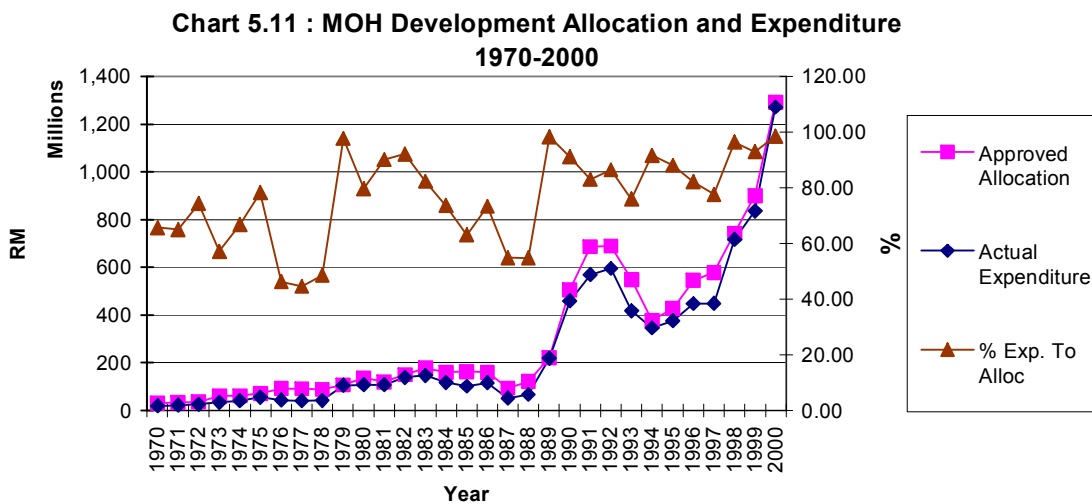
*Source: Computed from data in the Ministry of Health Annual Report for the respective years.*

When the new policies/one-off programmes were introduced in 1991, except for engineering, general administration and training, the rest of the other programmes were

given a gradual reduction of the operating allocation. The extent to which the share of the allocation went showed very clearly that priorities were given to privatisation and new policies/one-off programmes.

#### 4. Ministry of Health development budget allocation and expenditure

Development allocation had increased 36 times from 1970 to 2000. The development budget increased quite gradually from 1970 to 1989 but there was a steep increase from 1990 to 1992 before decreasing from 1993 to 1994 and went up on a steep increase again after 1997. See Chart 5.11 below. Development allocation was very different from operating allocation as this was based on the five-year development plans and the number of projects planned over a period of five years. The allocation was normally approved for a five-year plan period although the actual fund was budgeted annually. Projects not completed during the plan period were brought forward to the next plan, which made the patterns of allocation rather inconsistent.



Furthermore, for the health sector, some of projects are funded through loans from the Asian Development Bank, for example, the ADB approved a loan of US\$25.8 million to complement the funding of the Fourth Malaysia Plan for the construction and equipping of 45 health centres and four district hospitals. Besides this, the World Health Organisation also allocated from its regular budget to assist Malaysia in its development effort, for example for 1980/81, US\$1.059 million was allocated for development in health services.

The percentage of the development expenditure to the allocation given, fluctuated according to the five-year development plans as shown in Chart 5.11 above. The percentage spent seemed to peak at the end of the plan period and shortfalls were recorded during the periods when the country was facing an economic downturn. The trend of annual change in development allocation and expenditure is clearly shown in Chart 5.12 below. There were a few peaks in expenditure that went beyond the annual budget. These were shown in 1979, 1989 and 1998 and just prior to these peaks were years where expenditure dipped below the budget given. It was very clear that when the expenditure experienced a shortfall it was quickly rectified just before the end of the five-year plan period with a sudden increase in expenditure at the end of the plan period. The cycle as shown in the chart was a 10-year cycle rather than a five-year cycle.

Development allocation was distributed among its twenty-one project headings. However, from 1996 onwards, the programmes were condensed into only six project headings but there were four main project headings to which the biggest bulk of the development allocation went, for they alone accounted for 92 percent of the total development budget. These major headings were training, rural health services,

improvement to health facilities and hospitals which include both improvement to hospitals and building of new hospitals.

**Chart 5.12 : Percentage of Change in Allocation and Expenditure of MOH Development Expenses 1970-2000**

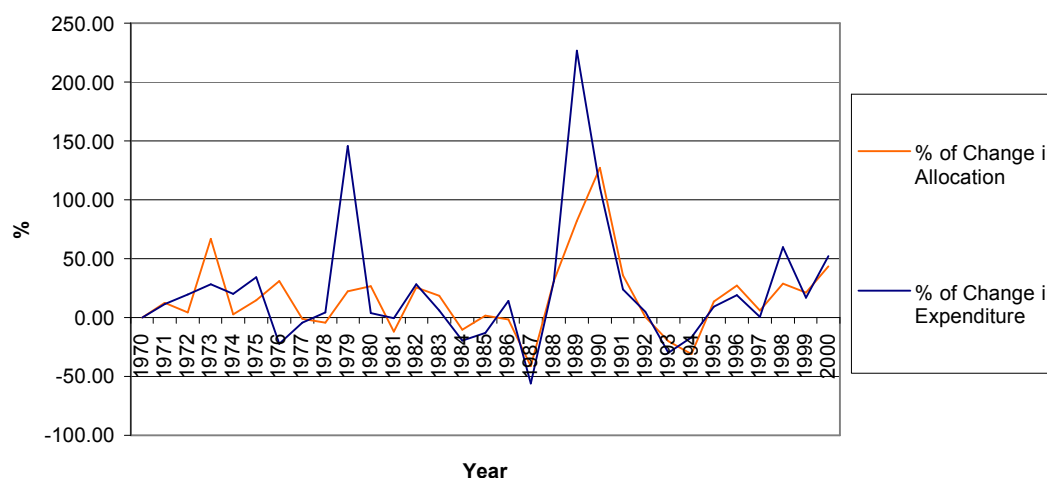


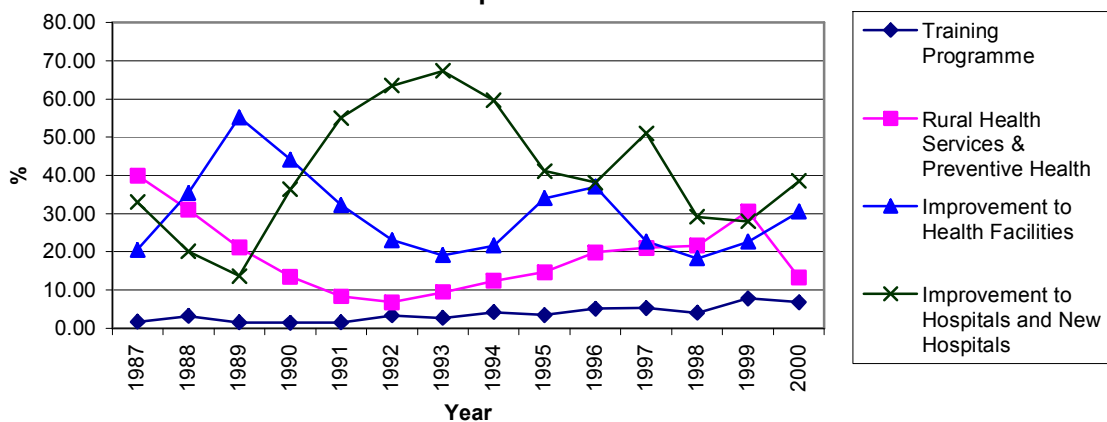
Table 5.10 and Chart 5.13 below show that the project heading that experienced a steady increase in the share of the development budget was training which had increased from 1.7 percent in 1987 to 6.8 percent in 2000. The rest of the other three major project headings had a fluctuating share of the development allocation according to the priorities given to the various project headings. If hospital had a bigger share then, there would have been a decrease in allocation for rural health service and preventive care and also for improvement to health facilities.

However, if public health services were taken as one component combining both the rural health service with the improvement for health facilities, then for most of the years from 1987 to 2000, the public health would have had a larger share than the hospital except for 1991-1994 and 1997 where the proportion was more than 50 percent.

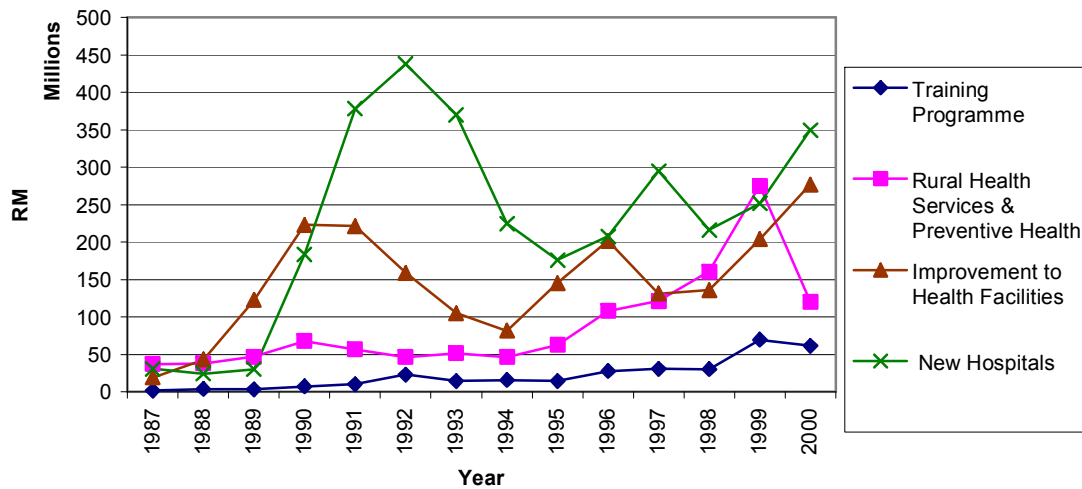
Year	Training	Rural Health Services & Preventive Health	Improvement to Health Facilities	Improvement to Hospitals and New Hospitals	Total
1987	1.69	39.93	20.53	32.97	95.11
1988	3.22	31.02	35.41	20.14	89.78
1989	1.48	21.10	55.21	13.70	91.48
1990	1.42	13.48	44.14	36.34	95.38
1991	1.48	8.26	32.23	55.08	97.05
1992	3.37	6.77	23.07	63.54	96.76
1993	2.68	9.38	19.14	67.32	98.51
1994	4.19	12.36	21.62	59.65	97.83
1995	3.42	14.66	33.98	41.11	93.17
1996	5.08	19.82	37.01	38.10	100.00
1997	5.32	20.98	22.70	51.00	100.00
1998	4.06	21.63	18.29	29.11	73.09
1999	7.76	30.56	22.63	27.94	88.89
2000	6.76	13.25	30.48	38.49	88.99

Source: Computed from data in the Ministry of Health Annual Report for the respective years.

**Chart 5.13: Percentage of Programme Allocation to Total Development Allocation**



**Chart 5.14 : Development Allocation for Some Major Programmes 1987-2000**



**Chart 5.15 : Development Expenditure for Some Major Programmes 1987-2000**

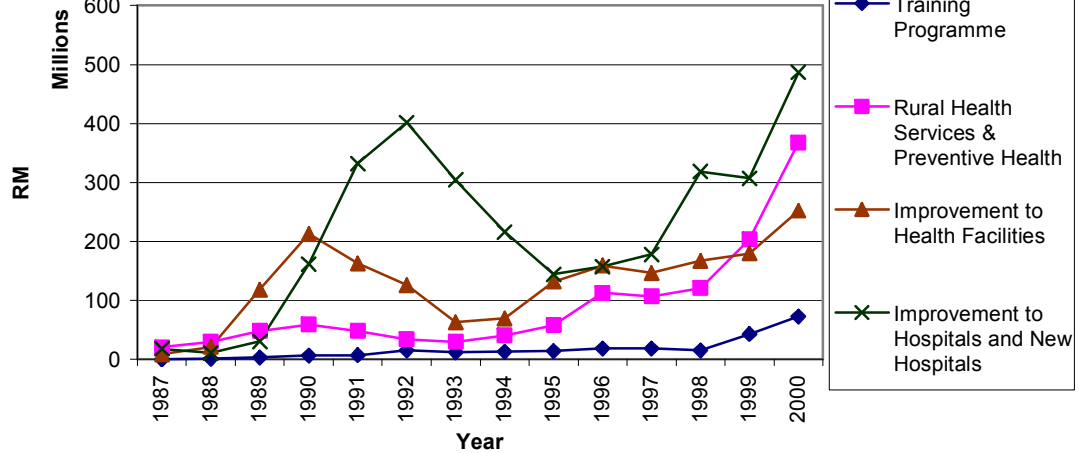


Chart 5.14 and 5.15 above show that the development allocation and expenditures had a similar pattern from 1987 to 1996. However, from 1997 to 2000, the expenditure patterns for all the four programmes took an upward trend although the allocation was reduced for example, development allocation for rural health services was reduced from 275 million in 1999 to 120 million in 2000 but the expenditure went up from 203 million to 368 million for the same period. The significant rise in expenditure was due to the fact that



the year 2000 was the final year for the 7MP and there was urgency to complete projects that had been approved.

In order to speed up the implementation and completion of the projects, the government cut down some red tape by allowing projects which cost less than RM20 million to be implemented through direct negotiations by the agencies concerned which was a faster process than the normal tendering process. In the end, the government increased the development allocation to RM3.7 billion compared to the original allocation of RM0.9 billion in 2000.<sup>282</sup>

## **5. Conclusion**

The brief analysis of the MOH budget allocation and expenditure above could only indicate that MOH as a leading agency for the health sector in Malaysia was very much influenced by the economic cycle of the country and was dictated by the overriding national policies, for example, the NEP and the Privatisation Master Plan. The desire to fulfil the government's policy did not match the aim to contain costs as long as it was done irregardless of the costs. A lot of emphasis was also put on expansion of health facilities to improve coverage but this was yet to be seen whether the expansion was based on the need to improve access or just merely because the money was there and it should be spent as it has always been done.

---

<sup>282</sup> MOH Annual Report 2000, pg. 25-26.

The expenditure patterns of the health budget were very vulnerable to the economic condition of the country. This was clearly shown in the case when the country was facing an economic downturn, the health budget took a dip and development expenditures experienced a shortfall in expenditure. Such vulnerability will inevitably affect the health system. There seems to be no proper planning to avoid such shortfalls or unexpected cuts. The operation was not responsive to the environment whether internal or external to the health system.

This was clearly shown in the pattern of the operating budget allocation and expenditure for the first twenty years from 1970 to 1990 which followed a historical pattern. The expenditure pattern shows that there was no evaluation done on prioritising financial resources according to the need or demand. As mentioned earlier in the chapter, the allocation given was merely on an incremental approach without taking into account the need to target certain activities which would improve the delivery of the health system in line with its policy. For example, as shown in the previous chapter shortage of manpower was acute since Independence but there was no serious effort to rectify the problem. It was only in the last decade from 1990-2000 where the health budget was more responsive to the issue by increasing allocation and expenditure for training. New policies and one-off programmes were also a detour from the historical pattern as it made the budget less rigid and allowed more room for contingencies or new priorities.

Coincidentally, besides the economic cycle, the health system also followed very closely the five-year development plan period and the election year which was very politically driven. Nevertheless, there was a tremendous improvement in its performance in

the later decade as the government machinery began to tighten its administrative functions and supervision.

A conclusion could not be made here because this analysis does not tell whether the priorities met the equity and efficiency objectives. A thorough evaluation of the health sector must look into the issues which require an overall picture of all the resources that were distributed. Health facilities may be built and manpower trained but whether they were evenly distributed to meet the equity objectives and whether the investment made gave value for money to ensure efficiency was achieved, has to be considered for a complete picture. All these issues will be discussed in the next two chapters when resources such like manpower, health facilities and utilisation rates are looked into.

## **CHAPTER SIX**

### **Critical analysis of Malaysian health system performance in terms of equity and efficiency.**

#### **1. Introduction**

In the previous chapter the overall review of the Malaysian health budget and expenditure did not give a detail analysis of its performance although the trend of expenditures has changed moderately throughout the time period of 30 years. There was no major reform to the financing and the delivery of the public health care services except for some minor changes in priorities and organisational structure. The obvious observation was public health care expenditure had increased almost 27-fold from a budget of RM183 million in 1970 to RM4,931 million in 2000. Similarly, per capita health allocation has also increased 12-fold from RM17.39 to RM212 for the same period. Although the proportion of the health budget to GNP has been quite consistent between 1.5 to 3.8 percent, the issue now is not only with rising costs but more important are questions such as whether the public health care providers get their money's worth from their investments, whether the subsidies were channeled appropriately to the rural poor as was targeted by the government, and whether those who are in need have benefited from the public health care system.

#### **2. Equity and efficiency goals in the Malaysian health care system**

Since 1970 the emphasis given by the MOH was to improve and expand the rural health services. The purpose for this expansion was to increase the coverage of health services to the population at large and to reduce the imbalances and disparities that existed in the health sector between the rural and the urban population and amongst the different states and regions. Improved coverage of health services as envisaged by the Malaysian government implied that services were to be made available for everyone so that every Malaysian has equal access and entitlement to available care.

Provision of public health care is seen as a tool used to reduce these imbalances and therefore ensued a policy of a fair distribution of health care resources throughout the country where the more deprived geographical areas are supposed to be given greater attention, for example, the poorer states or the rural areas in order that barriers to access such as poverty, shortage of health facilities and health manpower can be removed. This is a form of horizontal equity.

As mentioned in the first chapter, the Ministry of Health Malaysia has its own interpretation of equity which means each individual regardless of socio-economic status, age, race, religion or gender shall be provided with basic health care of an acceptable standard. This concept of equity in health has the moral and ethical elements of justice and fairness implying that everyone should have a fair and equal opportunity to attain his/her full health potential, and is concerned with creating equal opportunities for health by narrowing health differentials to a minimum. The development of the health services has given priority to equity considerations of access to these services in two important

dimensions, geographical access and cost access.<sup>283</sup> Resources and facilities are to be evenly distributed and every Malaysian is to have equal opportunity to access health care when they want to seek care and services are available to them even for those who cannot afford to pay. Besides accessibility, there should also be equal opportunity for all Malaysian to secure an acceptable standard of care or acceptable quality of care based on need.<sup>284</sup> This interpretation is very much in line with equality of access for equal need.

This policy of equity is central to the objective of NEP which is to reduce the socio-economic imbalances in the society. Social services such as health and education are seen as effective means of transferring income to the poor especially in rural areas as these services were offered free or at a very nominal cost. It is not surprising that these two social sectors received much investment in the rural areas as they represent about 40 percent of the income of the poor. Free public health care provides the poor people with an opportunity to improve their health and productivity. Equity in health care in Malaysia is closely tied to the socio-economic development of the country. Therefore, equity is a very important if not the most important goal in the development of the Malaysian health system and is mandated as a main concern of all involved in health.<sup>285</sup>

Since Independence, the health policy in Malaysia has put a lot of emphasis on equity but there was no mention about efficiency as a goal for the public health sector until in the later five-year development plans. The MOH's interpretation of efficiency emphasizes that health services are to be effective, appropriate and should result in good

---

<sup>283</sup> Policies in Health, MOH, July 1999 pg.13.

<sup>284</sup> *ibid*, pg. 14

<sup>285</sup> *ibid*, pg.13.

outcomes.<sup>286</sup> The concept of efficiency was indicated indirectly in the 5MP, that all health programmes should take into account the escalating costs of health services amongst other factors to be considered. It was suggested also in the 5MP that a National Health Plan would be worked out which was expected to consolidate health services resources in order to ensure optimum utilisation and cost effectiveness.

The integrated approach of the national health care system incorporates preventive, curative and rehabilitative services together in the delivery of services whether it is at the primary or secondary level. This approach is clearly seen at the primary level as rural and urban health services are delivered with the integration of health promotion, preventive, curative and rehabilitative care. A primary health care facility acts like a one stop centre providing a full range of walk-in patient care, promotive, preventive, and curative services, including dental care, medical imaging, upgraded clinical laboratory, health education and rehabilitation.<sup>287</sup> This is seen as one of the ways to ensure the efficient use of the limited resources. Policy makers hope that this would keep health care cost down while achieving satisfactory health outcomes. Such an integrated approach promotes expansion and extension of programmes, scope and services provided but they may not necessarily promote efficiency.

As shown in chapter three, although the intention to reduce costs was mentioned in the development plans, in reality there was no concerted effort to improve cost efficiency of the system. This was clearly reflected in the high cost of health care. The actual awareness

---

<sup>286</sup> Health in Malaysia – Achievements and Challenges, pg.12.

<sup>287</sup> *ibid*, pg. 380.

to cut down costs of health care came about during the economic recession in 1986 as there were budget constraints. It was also during the 5MP and thereon, that the government began to seriously consider optimising the utilisation of health care resources, firstly due to rising public expectations and the demand for high costs technology and medicine, and secondly the need to ensure effectiveness and efficiency of health investments.

One of the major challenges for the future is to add value to each dollar spent on health and health care through its efficient use of resources. Reengineering of current processes and procedures to cut down unnecessary costs, for example, the optimal use of its human resources and using less costly generic drugs are some of the ways the government tries to implement to make more efficient use of its resources. However, as much as the government is concerned about rising health care cost there is also a demand for high quality care by applying high-technology sophisticated equipment which is very costly. This has actually escalated health care costs rather than reduce the costs as the government begins purchasing costly equipment.

Another measure used by the government to improve efficiency is privatisation by allowing some form of market principles to be applied to the health system. One may argue that privatisation may improve the efficiency of the services provided because it is private-run and profit-driven as opposed to public-run organisations. As mentioned in the earlier chapters that the government started its privatization programme in the health sector with the aim to improve the efficiency and the quality of the services. How much efficiency has been achieved is yet to be seen. One of the ways to know if the system was



equitable and efficient is to examine the health care expenditure and how resources were allocated as will be discussed below.

### **3. Issues of equity and efficiency in Malaysian health care system**

#### ***3.1 Health facilities***

The MOH, Malaysia has always advocated health infrastructure development especially in the rural areas since Independence as three-quarters of the population were living in the rural areas then. Just prior to Independence, almost all existing health facilities were concentrated in the towns and rural health facilities were concentrated in mines and estates. Therefore, after Independence in order to speed up the development of health facilities to the rural areas, the rural health structure was revamped from a three-tier system to a two-tier system. This new structure was introduced to reduce the population to health facility ratio for a more equitable access by rural population. Besides that, having only two tiers instead of three allows for a wider coverage of rural clinics without needing to have a rigid hierarchy.

The purpose for the rural health services reform was obvious. There was a need to improve accessibility in the rural areas to rectify the equity issue of unequal distribution of medical and health infrastructure among the states and regions and to provide adequate facilities, health personnel and better quality services in the rural areas but whether the objective was achieved will be analysed below. Table 6.1 shows that not all the states enjoyed the same benefits for their rural population. Although the two-tier system was

introduced in the course of the 2MP, in 1980 only seven states in Peninsular Malaysia achieved the target of a health centre for every 15,000-20,000 rural population. Among all the states there was no improvement for Perlis from 1980-1994 but for states like Terengganu, Pahang and Kelantan the ratio remained almost the same for the same period.

States like Penang and Selangor known as the richer states which have a larger proportion of urban population had the largest improvement in terms of health clinic per rural population ratio but they were not faring well in terms of rural population per rural clinic is concerned. At one point in 1988, Penang had only one rural health centre serving a population of 37,400 which was way below the target set. The actual number of rural health centres for that state remained at 16 since 1980. See Table 6.2.

From 1988 to 1994, there were improvements in rural population per health centre ratio for almost all the states in Peninsular Malaysia due to the vigorous efforts of the government to build more health centres and the migration of the rural population to the urban areas in the case of Penang, Selangor and Malacca where the increase in the number of health centres was quite nominal. See Table 6.2. However, the poorer northern states saw the improvements in their ratio in terms of more health centres with the exception for Perlis. Overall, by 1994 almost all the states except for Kedah and Perlis were well within the target set of one rural health centre for every 15,000-20,000 rural population. The two states which did not make the mark were very close behind. Therefore, in terms of improving coverage and accessibility for the rural population to the rural health facilities, it was a commendable achievement.

**Table 6.1: Rural Population per Health Care Facilities (Health Centre) Ratio 1984-1994**

Year	Perlis	Kedah	Penang	Perak	S'gor	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan
1980	19,300	28,100	31,400	23,000	27,500	19,300	18,700	20,000	15,900	14,700	18,400
1981	19,800	28,800	32,000	24,000	28,400	18,900	19,200	20,500	16,400	15,200	19,000
1982	20,100	28,300	32,500	24,300	29,300	19,100	19,400	20,600	15,800	13,100	18,900
1983	20,524	25,112	35,246	24,160	28,827	19,405	20,719	18,931	14,658	12,471	19,410
1984	21,183	26,391	33,894	24,789	28,933	21,297	21,790	19,608	13,766	14,079	20,383
1985	21,729	27,014	33,250	25,321	29,817	17,474	21,146	19,802	14,164	13,537	19,949
1986	22,292	26,338	31,333	24,509	29,940	16,593	21,686	19,345	15,195	13,530	20,613
1987	22,657	25,298	36,850	24,130	31,723	16,652	20,989	18,618	16,885	14,157	20,136
1988	23,186	25,835	37,400	24,129	31,715	17,015	21,437	19,029	17,315	14,097	19,231
1989	23,316	26,417	27,832	25,013	21,042	15,204	23,167	17,056	15,218	12,294	17,481
1990	23,801	26,956	28,252	25,442	21,086	14,453	22,430	17,190	15,614	11,492	16,904
1991	19,303	20,003	16,659	14,796	13,475	13,352	15,469	15,461	13,614	13,434	16,055
1992	19,602	20,224	16,810	14,318	13,966	13,372	15,544	15,746	13,898	13,398	16,087
1993	20,057	21,014	15,838	14,190	12,600	14,060	16,015	16,101	14,438	14,261	17,052
1994	20,302	21,152	15,116	14,004	11,803	14,225	16,086	16,227	15,187	14,592	17,374
% ch.	5.2	-24.7	-51.9	-39.1	-57.1	-26.3	-14.0	-18.9	-4.5	-0.7	-5.6

Note: % ch. - percentage of increase/decrease from 1980-1994.

Source: The Information and Documentation System Unit, MOH Malaysia.

**Table 6.1A: Population per Health Care Facilities (Health Centres and Polyclinics) Ratio by State 1995-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	F.T./K.L.	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1995	23,222	26,466	44,367	24,667	45,523	103,346	20,674	21,152	27,770	18,303	24,266	24,575	25,967	16,113	26,800
1996	23,689	25,964	44,811	24,801	47,700	97,064	20,997	21,352	29,740	18,392	24,958	24,756	27,126	16,265	27,350
1997	24,156	28,335	45,263	24,938	49,177	98,193	21,329	21,556	29,355	18,773	25,021	24,948	29,598	16,563	28,064
1998	24,664	28,793	45,719	25,378	53,324	99,343	21,113	21,763	30,018	19,458	24,490	25,154	31,254	16,724	28,730
1999	25,133	29,256	46,178	46,178	54,978	100,514	21,449	21,970	30,698	19,869	25,201	25,800	32,642	16,893	29,382
2000	22,722	30,593	45,090	25,728	71,983	97,879	22,023	23,485	31,286	19,846	21,927	22,671	29,191	10,962	27,599
% ch.	-2.2	15.6	1.6	4.3	58.1	-5.3	6.5	11.0	12.7	8.4	-9.6	-7.7	12.4	-32.0	3.0

Note: From 1995 onwards the ratio includes polyclinics, and health centres are called health clinics.

% ch. - percentage of increase/decrease from 1995-2000.

Source: The Information and Documentation System Unit, MOH Malaysia.

**Table 6.2: Total Number of Rural Health Centres by State 1980-1994**

Year	Perlis	Kedah	Penang	Perak	S'gor	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan
1980	7	34	16	52	36	20	19	52	37	21	35
1981	7	34	16	52	35	21	19	53	37	21	35
1982	7	35	16	52	36	21	19	54	40	25	36
1983	7	40	15	53	38	21	18	60	45	27	36
1984	7	40	16	54	38	20	18	60	48	25	36
1985	7	40	16	54	38	25	19	61	48	27	38
1986	7	42	18	57	39	27	19	64	46	28	38
1987	7	43	16	57	39	27	19	68	48	28	39
1988	7	43	16	58	40	27	19	68	48	29	42
1989	7	44	16	58	41	27	19	68	51	29	46
1990	7	44	16	58	42	29	20	69	51	32	49
1991	7	44	16	59	42	30	20	70	53	32	49
1992	7	44	16	61	42	30	20	70	53	33	50
1993	7	44	16	61	42	30	20	70	53	33	48
1994	7	44	16	61	42	30	20	70	52	33	49
% ch.	0.0	29.4	0.0	17.3	16.7	50.0	5.3	34.6	40.5	57.1	40.0

Note: % ch. - percentage of increase/decrease from 1980-1994.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

**Table 6.2A: Total Number of Health Clinics (Health Centres and Polyclinics) by State 1995-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	K.L.	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1995	9	56	27	84	62	13	38	27	88	65	38	56	92	117	772
1996	9	58	27	84	61	14	38	27	84	66	38	57	93	118	774
1997	9	54	27	84	61	14	38	27	87	66	39	58	90	118	772
1998	9	54	27	83	58	14	39	27	87	65	41	59	90	119	772
1999	9	54	27	82	58	14	39	27	87	65	41	59	91	120	773
2000	9	54	29	82	58	14	39	27	87	65	41	58	91	189	843
% ch.	0.0	-3.6	7.4	-2.4	-6.5	7.7	2.6	0.0	-1.1	0.0	7.9	3.6	-1.1	61.5	9.2

Note: % ch. - percentage of increase/decrease from 1995-2000.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

It was the same for rural population per rural clinic, the outliers were again Penang and Selangor with one rural clinic serving more than 5,000 rural population before 1991.

The situation deteriorated in 1987 and 1988, where one rural clinic served more than 9,000 rural population. See Table 6.3. This was gross inequality in terms of supply of rural health facilities to the same target population, the rural group, whether they were from the poorer northern states or the wealthier west coast states. The rural health facilities were therefore, not equally distributed for all the states for their rural population. However, from 1991 onwards, there were marked improvements for all states. Sabah and Sarawak cannot be compared with the ratio in Peninsular Malaysia because their rural health facilities are different and not comparable with that from Peninsular Malaysia.

**Table 6.3: Rural Population per Rural Health Facilities (Rural Clinic) Ratio 1975-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1975	3,660	4,974	5,631	5,417	5,136	3,942	4,217	3,740	2,302	3,512	4,458	4,333		
1980	3,800	4,800	6,400	5,500	6,200	3,900	4,700	3,800	2,200	3,000	4,200	4,300		
1981	3,600	4,300	7,150	4,800	5,600	3,300	4,300	3,500	2,500	2,400	3,500			
1982	3,700	4,100	6,900	4,700	5,700	3,200	4,300	3,400	2,500	2,300	3,300	3,500		
1983	4,953	4,948	8,011	5,820	7,769	3,995	5,651	4,207	3,171	2,590	3,992	4,784		
1984	5,114	5,304	8,343	6,057	7,798	4,217	5,943	4,325	3,031	2,729	4,077	4,898	3,580	7,380
1985	5,245	5,430	8,061	6,215	8,038	4,325	6,088	4,409	3,047	2,833	4,188	4,981	3,674	5,792
1986	5,381	5,559	8,545	6,321	8,223	4,349	6,243	4,684	3,147	3,007	4,257	3,674	5,933	
1987	5,469	5,522	9,071	6,168	8,652	4,365	6,042	4,684	3,651	3,073	4,313	6,640	4,948	
1988	5,597	5,611	9,206	5,955	8,749	4,293	6,266	4,883	3,727	3,097	4,462			
1989	5,628	5,783	6,747	6,174	6,033	3,837	6,772	4,377	3,465	2,742	4,232	5,533	5,925	
1990	5,745	5,542	6,849	6,174	6,237	3,881	6,902	4,361	3,493	2,786	4,292	5,707	5,925	
1991	4,659	4,113	4,039	3,520	3,958	3,815	4,760	3,994	3,179	3,184	4,076	6,092	4,711	
1992	4,732	4,120	4,075	3,522	4,073	3,535	4,783	4,067	3,121	3,251	4,042	6,412	10,902	4,406
1993	4,841	4,281	3,839	3,476	3,753	4,017	4,928	4,129	3,298	3,538	4,241	6,780	10,601	4,512
1994	4,901	4,309	3,664	3,445	3,645	4,064	5,107	4,116	3,419	3,594	4,388	6,693	10,545	4,531
1995	5,017	4,268	3,518	3,222	3,592	4,137	5,078	4,318	3,505	3,866	4,563	3,238	10,993	4,717
1996	5,048	4,229	3,333	3,055	3,388	4,159	5,019	4,281	3,558	3,937	4,492	8,711	10,913	4,701
1997	5,072	4,151	3,413	2,986	3,165	4,180	4,960	4,369	3,676	4,042	4,523	9,015	10,829	4,742
1998	5,100	4,166	3,228	2,904	2,951	4,202	4,898	4,377	3,716	4,150	4,531	9,329	10,735	4,758
1999	5,124	4,160	3,002	2,800	2,749	4,223	4,835	4,384	3,709	4,261	4,676			
2000	4,481	4,457	4,197	3,458	3,835	3,885	3,302	3,495	3,184	3,468	4,348	7,152	41,358	4,600
% ch.	22.4	-10.4	-25.5	-36.2	-25.3	-1.4	-21.7	-6.6	38.3	-1.3	-2.5	65.1		

Note: % ch. - percentage of increase/decrease from 1975-2000.

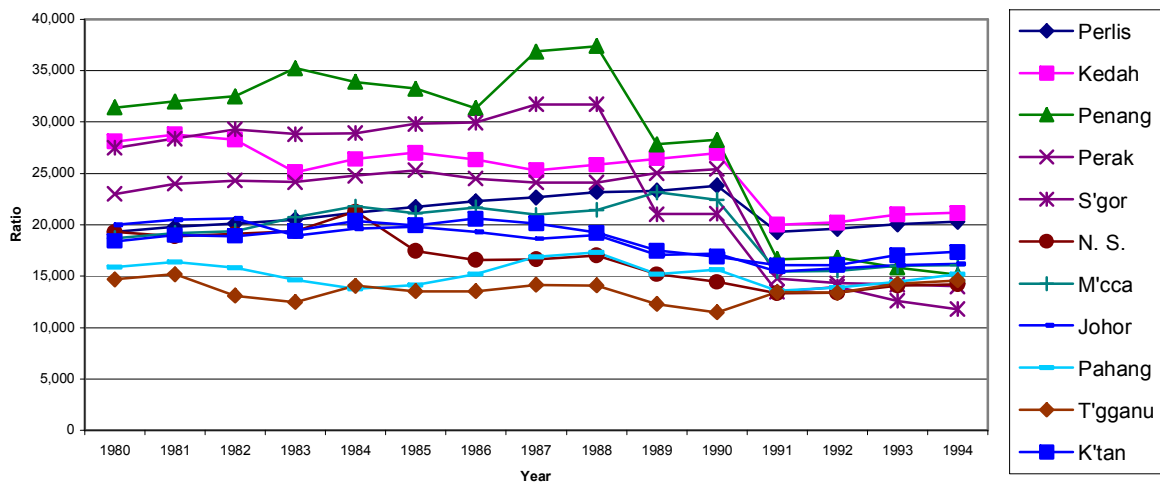
Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

Chart 6.1<sup>288</sup> below shows that the gaps for rural population per health centre ratio have narrowed significantly from 1991 onwards. The gaps among the different states have also narrowed significantly. The percentage of the rural population has also reduced

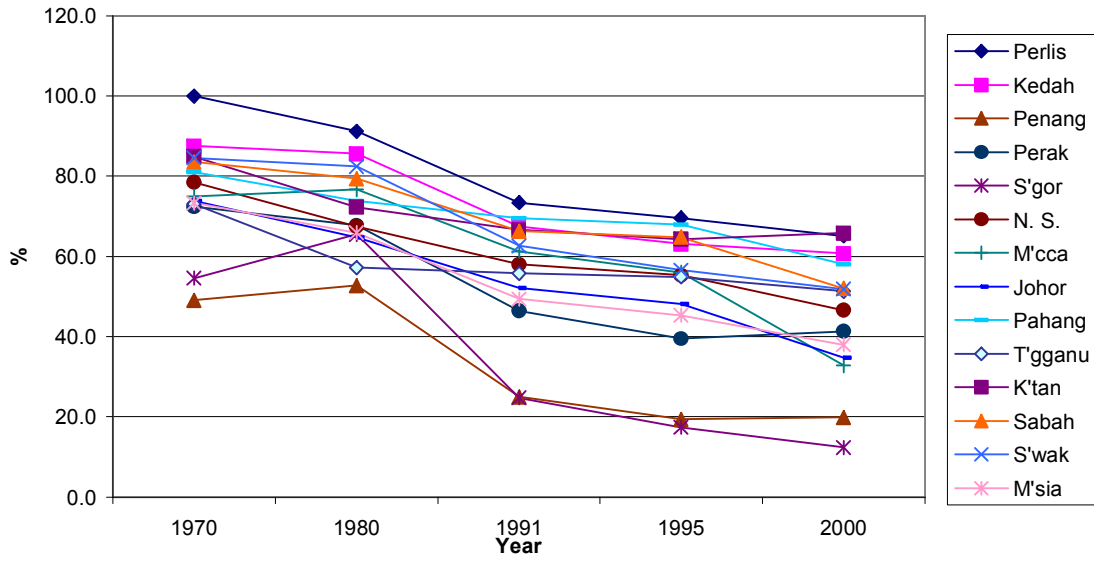
<sup>288</sup> Sabah and Sarawak were not included in this Chart because the rural health facilities were not similar to those in Peninsular Malaysia and therefore comparison could not be made for these two states with the rest of the other states. Furthermore from 1970 to 1979, there was no consistent data for rural health facilities and therefore prior to 1980 the ratio was not included.

significantly for all states as shown by the downward trend from 1970-2000 as shown in Chart 6.2 but at a closer look it reveals that the gap among the states remained the same as certain states had their rural population reduced at a faster rate than the rest such as Selangor and Penang. Overall, there was a reduction of rural population for all states. The trendlines have shifted down but the gaps between the higher end and the lower end remained the same. In the same manner, the urban population increased for all states as shown by the trendlines shifting up (see Chart 6.3) but the gaps among the states still remained the same even without taking into consideration Kuala Lumpur, the capital city.

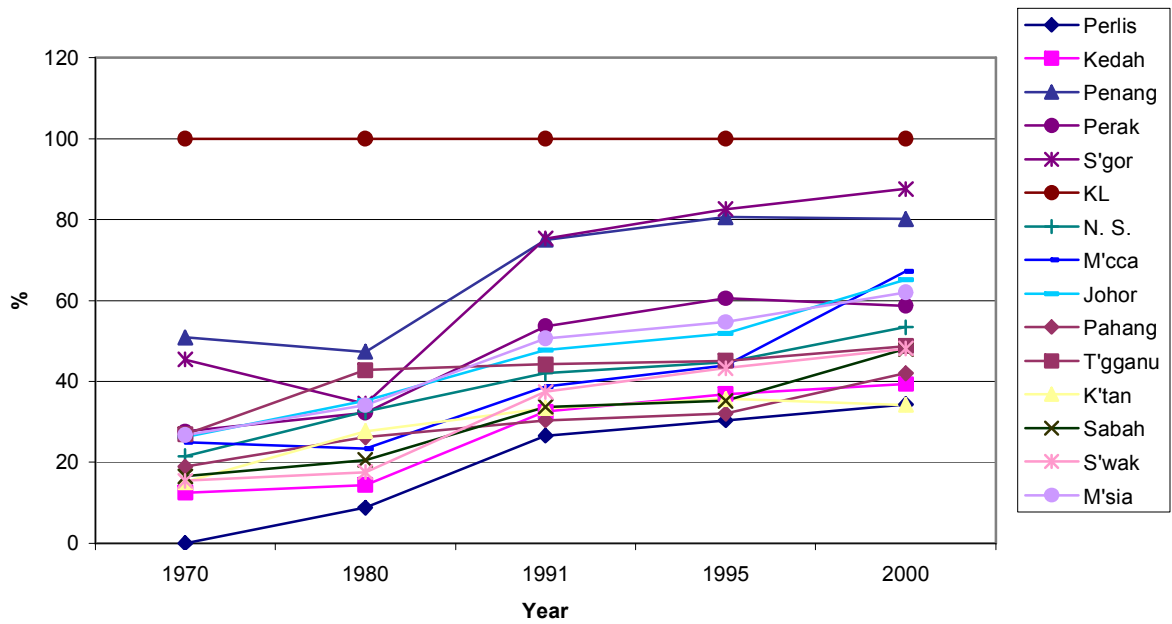
**Chart 6.1 : Ratio of Rural Population Per Rural Health Care Facilities (Health Centre) 1980-1994 for West Malaysia**



**Chart 6.2 : Percentage of Rural Population by State 1970-2000**

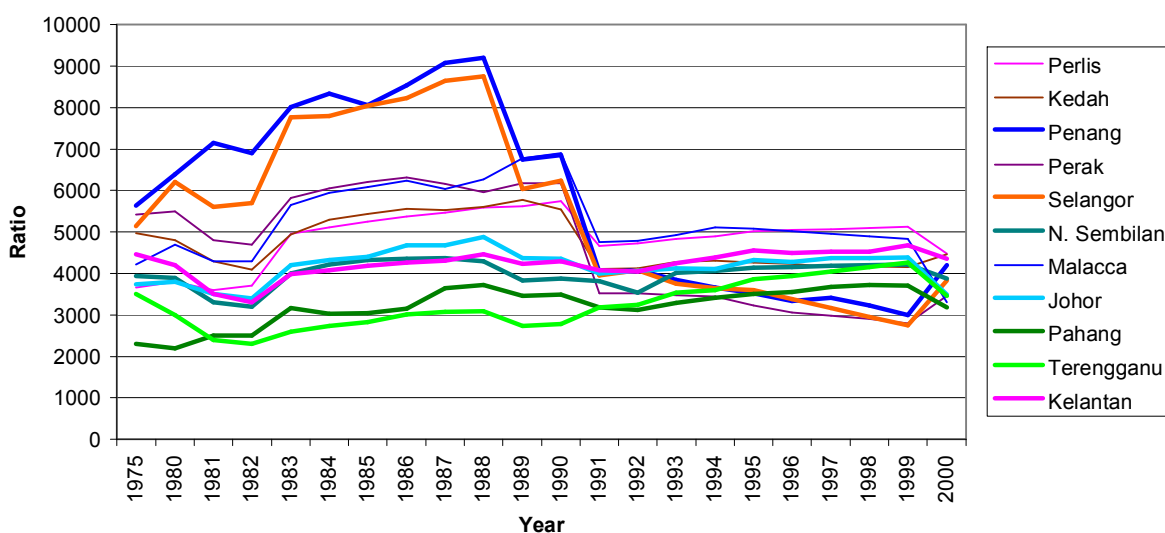


**Chart 6.3 : Percentage of Urban Population by State 1970-2000**



In terms of rural population per rural clinic ratio, by 2000, only seven states achieved the target of one rural clinic for every 4,000 rural population. The states which had their ratio above the target were Perlis, Kedah, Penang, Kelantan, Sabah and Sarawak. Even after 30 years of heavy investment in the rural health services, six states were unable

**Chart 6.4 : Rural Population Per Rural Clinic Ratio 1975-2000**



to achieve the target. See Table 6.3. The target of a rural clinic for every 4,000 rural populations was achieved by six states in 1980, reduced to four states in 1990 and increased again to seven states in 2000 in Peninsular Malaysia.<sup>289</sup> In the 1980s, all states experienced an increase in their rural population per rural clinic ratio. The states that were badly affected were Penang 1:9,206 (1988), Selangor 1:8,749 (1987), Malacca 1:6,902 (1990) and Perak 1:6,321 (1986). Although the other states had their share of increased ratio, they were below the 6,000 mark. Corresponding with these ratios, only Malacca had no increase in the number of rural clinics and Selangor had three additional rural clinics, Penang and

<sup>289</sup> Sabah and Sarawak were excluded from comparison due to the different setting and target of their rural health facilities.

Perak had nine and 20 rural clinics added respectively for the same period. See Table 6.4 below.

**Table 6.4: Total Number of Rural Clinics by State 1980-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah*	S'wak^	M'sia
1980	30	182	56	201	140	97	65	257	186	101	150			
1981	31	189	56	208	145	98	66	258	204	108	154			
1982	31	204	59	216	149	104	67	270	212	115	168			
1983	29	203	66	220	141	102	66	270	208	130	175	256	159	2,025
1984	29	199	65	221	141	101	66	272	218	129	180	261	161	2,043
1985	29	199	66	220	141	101	66	274	223	129	181	264	210	2,103
1986	29	199	66	221	142	103	66	265	222	126	184	268	210	2,101
1987	29	197	65	223	143	103	66	270	222	129	182	186	205	2,020
1988	29	198	65	235	145	107	65	265	223	132	181			
1989	29	201	66	235	143	107	65	265	224	130	190	191	218	2,064
1990	29	214	66	239	142	108	65	272	228	132	193	192	223	2,103
1991	29	214	66	248	143	105	65	271	227	135	193	195	219	2,110
1992	29	216	66	248	144	105	65	271	236	136	199	191	100	2,006
1993	29	216	66	249	141	105	65	273	232	133	193	189	101	1,992
1994	29	216	66	248	136	105	63	276	231	134	194	192	101	1,991
1995	29	219	66	254	137	105	63	273	231	131	194	188	97	1,987
1996	29	221	66	259	136	105	63	276	231	132	197	186	97	1,998
1997	29	225	61	256	136	105	63	271	227	132	199	188	97	1,989
1998	29	224	61	254	136	105	63	271	228	132	202	190	97	1,992
1999	29	224	62	254	136	105	63	271	232	132	199	191	92	1,990
2000	30	225	62	252	135	103	63	271	235	133	199	190	26	1,924
% ch.	0.0	23.6	10.7	25.4	-3.6	6.2	-3.1	5.4	26.3	31.7	32.7	-25.8	-83.6	-5.0

Note: % ch. - percentage of increase/decrease from 1975-2000.

\*Rural Dispensary, Village Group Sub-Centres and Health Centres

^Health Centres, Rural Clinics, Static Dispensaries and Sub-dispensaries

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

Data showed that there was hardly any significant increase in the number of rural clinics established in the eighties for certain states such as Perlis, Penang, Selangor, Negeri Sembilan and Malacca. From 1990-2000, a few states even had the number of rural clinics reduced, for example, Selangor, Penang, N. Sembilan and Malacca. The gaps for rural population per rural clinic ratio had narrowed significantly from 1991 onwards as shown by the trendlines in Chart 6.4 above. This was due to migration of rural population to urban areas especially for the more industrialised states of Penang and Selangor and the other factor being an overall expansion of rural facilities from 1991-2000 in the less industrialised states such as Terengganu, Kelantan and Pahang. In year 2000, there seemed to be a further narrowing of the gap among the states despite the increase in ratio for certain states.



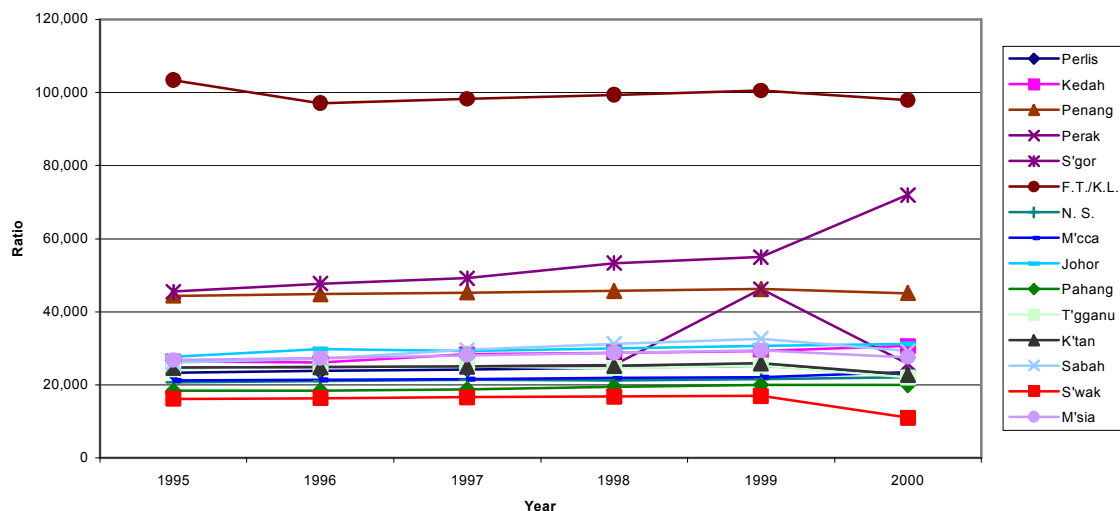
Therefore, as far as rural health facilities were concerned, the government had achieved its equity goals by its unequal distribution of health resources favouring the poorer states. If the government had proceeded with equal distribution for every state, equity would not have been achieved and the gap between the poorer and the wealthier states would have widened.

If both the urban and rural health services were analysed together, the scenario was very different and the disparities were even greater favouring the rural population and not the urban population. From 1995 to 2000 as shown in Table 6.1A, the total population (inclusive of both rural and urban population) per health centre ratio includes urban polyclinics and rural health centres. Overall, taking into account both rural and urban health facilities together all states experienced larger increases in ratio. This can only show that the urban population has been neglected. Federal Territory Kuala Lumpur had the highest ratio of one health clinic to 103,346 population compared to the lowest ratio in Pahang of one health clinic for every 18,303 population in 1995, a difference of 465 percent or 5.6 times. Combining both the rural health service and the urban health service as shown in Chart 6.5 from 1995-2000, there was not much improvement; the population per health facility was almost the same throughout as shown by the horizontal trend lines except for Selangor which experienced an upward trend. Only Sarawak improved its ratio from 1970-2000.

The more urbanised and affluent states like Selangor and Penang have their population per health clinic ratio increased by more than double when taking into account urban health services. These two states have the highest proportion of urban population

besides Kuala Lumpur. In 2000, the situation got worse for Selangor when the ratio increased from one health clinic for every 45,523 population in 1995 to 71,983 population in 2000, an increase of 58.1 percent in just five years. However, these figures do not include the provision of health care by the private sector as most of the private healthcare providers were concentrated in the urban areas. The imbalances caused by the low public health sector provision were assumed to have been corrected by the private health care providers. This was demonstrated in the population per doctor ratio. See Table 6.5 below.

**Chart 6.5 : Population Per Health Care Facilities (Health Centres and Polyclinics) Ratio 1995-2000**



**Table 6.5: Doctor Population Ratio by State 1970-2000**

Year	Perlis	Kedah	Penang	Perak	Selangor	W.P/F.T	N.S.	Malacca	Johor	Pahang	T'gganu	Kelantan	Sabah	Sarawak	Malaysia
1975	5,340	9,080	3,260	5,340	2,080		4,920	4,610	5,470	6,300	9,000	11,000	9,420	8,100	4,650
1980	5,090	6,980	2,780	4,430	4,420	939	3,060	3,840	4,560	4,880	8,340	9,970	7,830	7,230	3,800
1981	6,057	6,724	2,639	3,787	4,360	811	3,503	3,573	4,611	5,410	6,948	10,339	7,443	6,729	3,661
1982	6,189	6,039	2,587	3,939	3,962	986	3,485	3,320	4,702	5,395	6,750	8,667	7,262	6,624	3,668
1983	4,080	6,053	2,341	3,673	3,457	875	3,353	3,401	4,050	4,401	6,215	6,744	6,498	6,440	3,308
1984	4,031	5,810	2,328	3,546	3,673	929	3,273	3,215	4,021	4,785	6,177	6,662	6,763	6,555	3,388
1985	3,791	5,513	1,925	3,544	3,334	815	3,303	3,011	4,186	4,581	5,557	6,898	7,024	6,591	3,174
1986	3,492	5,275	2,103	3,307	2,908	774	2,976	3,276	4,047	4,305	5,341	4,831	5,884	6,308	2,986
1987	3,737	5,137	2,051	3,158	2,698	748	2,795	2,952	3,851	4,458	4,782	4,110	5,866	5,772	2,852
1988	3,392	4,563	1,950	2,994	2,504	713	2,844	2,806	3,568	4,094	4,775	3,919	5,437	5,590	2,700
1989	3,535	4,271	1,847	2,953	2,389	709	2,770	2,834	3,399	3,959	4,500	4,132	5,128	5,119	2,638
1990	3,411	4,253	1,798	2,799	2,285	717	2,604	2,640	3,130	3,509	4,249	3,782	5,061	4,786	2,533
1991	3,229	3,782	1,656	2,344	2,478	642	2,513	2,051	2,968	3,399	4,508	4,019	6,011	4,630	2,441
1992	2,959	4,084	1,758	2,804	2,087	663	2,625	2,568	2,896	3,382	4,268	3,596	4,788	4,592	2,411
1993	3,526	3,973	1,765	2,824	1,993	586	2,421	2,512	2,876	3,730	4,123	3,161	4,692	4,317	2,301
1994	3,183	3,653	1,677	2,645	1,827	555	2,542	2,291	2,845	3,566	4,548	3,092	4,887	4,369	2,207
1995	3,029	3,201	1,554	2,183	2,148	529	2,284	1,768	2,697	3,509	4,172	2,700	5,870	4,134	2,153
1996	2,921	2,970	1,526	2,106	2,021	526	2,122	1,731	2,560	3,281	4,070	2,506	5,180	4,058	2,076
1997	2,151	2,114	1,118	1,556	1,636	361	1,589	1,200	1,938	2,320	2,502	1,917	4,195	2,722	1,521
1998	1,896	1,882	1,061	1,498	1,584	345	1,505	1,242	1,865	2,299	2,467	2,099	4,249	2,585	1,477
1999	1,701	1,915	1,063	1,483	1,431	372	1,455	1,111	1,808	2,110	2,194	1,962	4,120	2,629	1,465
2000	1,704	1,967	1,077	1,406	1,839	395	1,284	1,174	1,843	2,035	1,835	1,569	3,325	2,279	1,490

Note: % ch. - percentage of increase/decrease from 1975-2000.

Source: Ministry of Health Annual Report for the respective years.

Although Kuala Lumpur had the worst ratio in terms of population per public health facility ratio, in terms of doctor population ratio it was the best, that is, one doctor for every 395 population, 3.7 times less than the national average of one doctor for every 1,490 population. Therefore, taking into consideration the availability of the private practitioners in the urban areas, the unequal provision of the public health facilities in these areas seemed to be vertically inequitable. The government cannot just look in terms of availability of physical facilities and resources but also the ability to pay as these private practitioners do not give free treatment or charge nominal fees as what is provided by the government. The inability to pay due to the high cost of private care is a form of inequity in terms of accessibility which should also be considered.

The rural areas showed a significant improvement generally, but efforts to improve coverage were not balanced in terms of distribution of health facilities between the rural and the urban population and also among the rural population of the different states as mentioned above. Another observation was that Perlis, the smallest state, remained status

quo in terms of number of health facilities for the last 20 years although the total population for the state had increased 41 percent for the same period.

As reiterated in the 5MP onwards, the emphasis was no longer on increasing the number of health facilities but rather upgrading and expanding services, renovation and refurbishing existing health facilities and consolidating various health programmes to lessen financial burden. Cost was a factor to be considered and not just equity alone although equity still remained a stated priority.

The urban health services on the other hand were aimed at decentralising the outpatient services through provision of polyclinics or satellite clinics and network of health office cum maternal and child health to reduce congestion in existing hospitals. However, the urban health services were not given the emphasis as accorded to the rural health services and the result was clearly seen in the analysis above. In 1993 MOH implemented a policy on transferring the outpatient services (OPD) under the medical programme to the public health programme.<sup>290</sup> The rationales were to decongest the hospitals, streamlining the primary health care to ensure a holistic approach, harmonizing standards and quality of care of OPD both in the rural and urban settings, and optimizing health care resources. The implementation of this policy was phased and incremental. This transfer allows for the expanding of the urban and rural health services under the same administration. This new realignment and the adoption of the integrated approach in the

---

<sup>290</sup> It was decided in a special meeting between the Director General of Health with all the Division Directors No, 5/1992 that primary medical care in OPD satellite clinics and polyclinics to be managed under public health programme. In April 1993 the Public Health Division released an implementation plan on “Transfer of OPD from hospital to health services.”

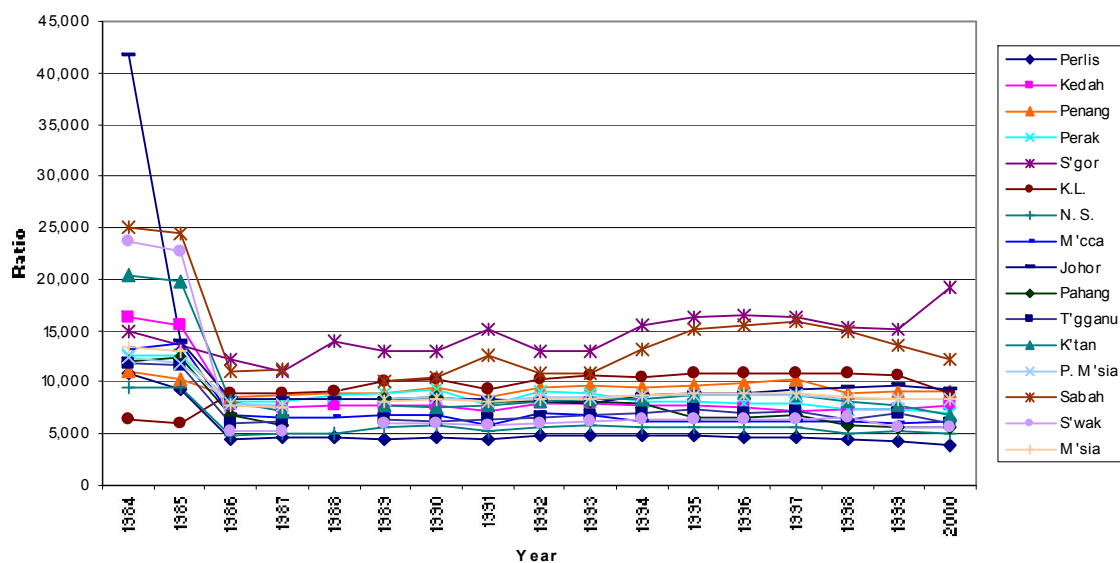
delivery of health services provided for a more efficient primary health care. Both the rural and urban health services were the backbone of the medical and health services in the country which were the first line of contact the population had with basic health care services and further access to secondary and tertiary care if required through a referral system. The scope of the services provided in the primary health care services under the integrated approach allows for holistic and comprehensive care not limited to treatment of signs and symptoms of illness but include a whole range of preventive and promotive aspects. See Appendix 1.

For dental services, the disparities among states were very obvious, the ratio varied from the highest being Selangor with one dental unit for every 19,151 to the lowest being Perlis with one dental unit for every 3,787 for 2000. See Table 6.6. From 1984 to 2000, almost all the states except for the Federal Territory of Kuala Lumpur, and Selangor showed significant decrease in the population per dental unit ratio, ranging from the lowest reduction of 17.9 percent for Penang to the highest reduction of 77.5 percent for Johor. Understandably, Kuala Lumpur and Selangor having the highest population growth rate compared to the other states, the increase in ratio was not a surprise. However, the disparities still existed. All states experienced growth in terms of number of public dental units except for Kuala Lumpur which was reduced from 167 in 1984 to 154 in 2000 (see Table 6.7) and yet had the lowest population per public and private dentist ratio, that is, one dentist for every 2,992 population compared to the highest for Sabah with one unit for every 33,625 population. See Table 6.8.



The low ratio in Kuala Lumpur was contributed by the number of private dentists in the capital. Although the differences seemed grossly unequal in terms of the distribution of dentists among the different states, by looking at Chart 6.6 below, the gaps among the states were narrowed significantly from 1986 onwards except for two states: Selangor and Sabah. Even Sabah, which had the highest in terms of population per dentist ratio, went on a downward trend from 1997 but the outlier was Selangor which needed to be given consideration because this would create inequity in terms of affordability. But on the whole, equity was also achieved by narrowing the gaps through the unequal distribution of public dental health facilities.

Chart 6.6 : Dental Unit Per Population Ratio by State 1984-2000



The private dentists outnumbered the public dentists by two to one. The same was for Selangor as there are 361 private dentists compared to only 66 dentists in the public sector. This could be explained by the number of dentists graduating, since University Malaya started its dental faculty in 1972. The first intake of dental students was only 32, and up to 1995 the annual intake only increased to 65. See Table 6.9. Only in 2000 did the

number of training schools for dentists increase and the annual intake rose five times but the gestation period takes about four years before these batches are ready to practice. The increase came late and the population at large would have to wait for the supply to increase before they could have access to dental care particularly for Sabah. In this case it shows that manpower planning was not properly coordinated to increase the output to meet the demand.

As for hospital facilities, there were already in existence state public hospitals in all state capitals. Most of these state hospitals were built before Independence and known as general hospitals which were referral centres for the state and provided a wide spectrum of specialities<sup>291</sup>. In 1957, there were 10 general hospitals, 56 district hospitals and seven special medical institutions. Most of these hospitals were located in the main towns of the west coast<sup>292</sup> of Malaysia. Since 2MP, the aim of the government in respect of hospital development was to increase the number of hospital beds, to improve facilities and services in existing hospitals<sup>293</sup> and to increase the number of health personnel for hospital services. In the 3MP, a long-term target was set, that is, a hospital for each district and two acute beds for every 1,000 population. In 1975, the average acute bed per 1,000 population ratio for the country was at 1.75/1,000 population. For the medical programme, the priority of the government was to improve the quality and the coverage of medical services.

---

<sup>291</sup> There are 7 special medical institutions in the country, 4 psychiatric hospitals, one tuberculosis hospital and two leprosy hospitals.

<sup>292</sup> The former Federated Malay States and the Straits Settlement which were the more developed states compared to the east coast states.

<sup>293</sup> Improvement and expansion of existing facilities and services include upgrading the present services through offering modern treatment and medical services, improvement and replacement of diagnostic and operational theatre facilities, provision of additional beds, replacement of dilapidated hospitals built in the early 1900s and unsatisfactory buildings, expansion of outpatient facilities and expansion of specialist services.



**Table 6.9: Total Number of Training Schools and Annual Intake of Health Personnel by Type 1985-2000**

Year	Doctor		Dental Officer		Pharma cist		Nurses		Comm. Nurses <sup>^</sup>		Medical Assist.		Health Inspector	
	No. of Schools*	Annual Intake	No. of Schools	Annual Intake	No. of Schools	Annual Intake	No. of Schools	Annual Intake	No. of Schools	Annual Intake	No. of Schools	Annual Intake	No. of Schools	Annual Intake
1985	3	392	1	76	1	60	8	705	6	270	2	160	1	110
1990	3	454	1	65	1	72	8	705	9	240	2	160	1	110
1995	3	506	1	65	1	93	19	2080	12	1170	4	420	1	110
2000	6	1028	3	328	3	377	19	2280	12	2140	4	585	2	250
% ch.	100.0	162.2	200.0	331.6	200.0	528.3	137.5	223.4	100.0	692.6	100.0	265.6	100.0	127.3

Note : \* Local universities.

<sup>^</sup> Community Nurses include rural nurses and those conversion from midwife to rural nurse.

% ch. - percentage of increase/decrease from 1985-2000.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

From 1970 to 2000, a total number of 60 hospitals were built. See Table 6.10. The increase in the number of hospitals was mainly district hospitals which saw an increase of 56 hospitals for the same period. As for distribution by state, there was no increase in hospitals for five states from 1985 to 2000. For Perlis, Penang, Kuala Lumpur, Negeri Sembilan and Malacca there was no increase at all. See Table 6.11. The state that has the highest increase was Sarawak with 4 additional hospitals for same period of time. Since the hospitals built came in different sizes as to the number of beds available and the different services provided whether with specialists care or not, the best way to analyse is to look into the number of acute hospital beds in the state (see Table 6.12) and the total number of acute hospital beds per 1,000 population (see Table 6.13).

**Table 6.10: Total Number of MOH Hospitals by Category 1970-2000**

Year	No. of Gen. Hosp.	No. of Dist. Hosp.	No. of Med. Inst.	Total
1970	11	43	7	61
1971	11	43	7	61
1972	11	44	6	61
1973	11	48	5	64
1974				
1975	18	65		83
1976	12	46		58
1977				
1978				
1979				
1980	18	70	5	93
1981	16	73	7	96
1982	16	73	8	97
1983	16	74	8	98
1984	16	74	8	98
1985	16	78	7	101
1986	16	78	7	101
1987	16	79	7	102
1988	16	79	7	102
1989	16	79	7	102
1990	16	79	7	102
1991	16	81	7	104
1992	16	84	7	107
1993	16	85	7	108
1994	16	89	7	112
1995	16	95	7	118
1996	16	94	7	117
1997	16	95	7	118
1998	16	95	7	118
1999	16	98	7	121
2000	16	99	6	121

Source: Ministry of Health Malaysia Annual Report for the respective years.

Note: The empty spaces imply that data are not provided in the respective Annual Reports.

**Table 6.11: Total Number of MOH Hospitals\* by State 1985-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1985	1	6	5	12	5	1	5	2	9	8	4	6	15	15	94
1986	1	6	5	12	5	1	5	2	9	8	4	6	15	15	94
1987	1	6	5	12	5	1	5	2	9	8	4	7	15	15	95
1988	1	6	5	12	5	1	5	2	9	8	4	7	15	15	95
1989	1	6	5	12	5	1	5	2	9	8	4	7	15	15	95
1990	1	6	5	12	5	1	5	2	9	8	4	7	15	15	95
1991	1	6	5	13	5	1	5	2	9	8	4	7	15	19	100
1992	1	8	5	13	5	1	5	2	9	8	4	7	15	17	100
1993	1	8	5	13	5	1	5	2	9	8	4	8	15	17	101
1994	1	8	5	13	6	1	5	2	9	9	4	8	17	18	106
1995	1	9	5	14	6	1	5	2	10	9	5	8	17	19	111
1996	1	9	5	14	6	1	5	2	10	9	5	8	17	19	111
1997	1	9	5	14	6	1	5	2	10	9	5	8	17	19	111
1998	1	9	5	14	6	1	5	2	10	9	5	8	17	19	111
1999	1	9	5	14	6	1	5	2	10	9	5	8	17	19	111
2000	1	9	5	14	7	1	5	2	10	9	5	8	18	19	113
No. ch.	0	3	0	2	2	0	0	0	1	1	1	2	3	4	19

Note : \* excludes Special Medical Institutions.

No. ch. - Number of increase/decrease from 1985-2000.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

**Table 6.12: Total Number of Acute Hospital Beds by State 1980-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1980	405	1,416	1,723	3,209	1,143	1,891	1,760	958	3,237	1,460	825	1,071	2,220	2,347	23,665
1981															
1982															
1983	405	1,680	1,882	3,414	1,196	1,889	1,810	961	2,996	1,538	852	1,110	1,774	2,086	21,565
1984	326	1,454	1,696	3,189	1,132	2,098	1,603	868	2,591	1,255	742	751	1,774	2,086	21,565
1985	352	1,435	1,814	3,266	1,334	1,785	1,619	868	2,439	1,248	737	568	2,022	2,055	21,542
1986	358	1,554	1,803	3,318	1,432	1,785	1,619	842	2,512	1,274	999	777	2,076	2,067	22,416
1987	358	1,554	1,845	3,467	1,432	1,785	1,557	842	2,556	1,296	989	824	2,069	2,081	22,655
1988	358	1,543	1,850	3,467	1,402	1,783	1,557	831	2,653						
1989	358	1,543	1,898	3,518	1,402	1,803	1,557	817	2,653	1,363	1,011	1,038	2,094	2,075	23,130
1990	358	1,555	1,898	3,518	1,402	1,833	1,568	817	2,653	1,363	1,000	1,068	2,115	2,075	23,223
1991	358	1,555	1,921	3,621	1,402	2,008	1,373	817	2,653	1,328	1,025	1,120	2,086	2,157	23,424
1992	358	1,728	1,907	3,642	2,063	1,371	1,288	817	2,503	1,349	1,035	1,147	2,239	2,116	23,563
1993	358	1,728	1,881	3,624	1,411	2,032	1,288	817	2,503	1,315	1,019	1,159	2,130	2,233	23,498
1994	358	1,728	1,837	3,610	1,538	1,995	1,262	817	2,517	1,439	1,015	1,185	2,218	2,437	23,956
1995	358	1,809	1,669	3,735	1,547	1,995	1,230	787	2,579	1,448	1,071	1,235	2,386	2,585	24,454
1996	358	1,884	1,710	3,782	1,547	1,995	1,230	787	2,609	1,486	1,104	1,235	2,509	2,574	24,810
1997	358	1,896	1,718	3,721	1,547	1,999	1,240	787	2,619	1,496	1,101	1,232	2,573	2,636	24,923
1998	358	1,901	1,632	3,325	1,569	2,066	1,287	787	2,642	1,510	1,101	1,348	2,618	2,636	24,780
1999	358	1,901	1,660	3,290	2,463	2,095	1,275	787	2,642	1,542	1,101	1,421	2,684	2,632	25,851
2000	358	1,916	1,660	3,290	2,595	2,007	1,275	801	2,636	1,582	1,101	1,476	2,694	2,904	26,295
No. ch.	-47	500	-63	81	1452	116	-485	-157	-601	122	276	405	474	557	2630
% ch.	-11.6	35.3	-3.7	2.5	127.0	6.1	-27.6	-16.4	-18.6	8.4	33.5	37.8	21.4	23.7	11.1

Note: % ch. - percentage of increase/decrease from 1984-2000.

No. ch. - Number of increase/decrease from 1985-2000.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

From Table 6.12, most states experienced an overall increase in the number of acute beds except for Perlis, Penang, Negeri Sembilan, Malacca and Johor. Interestingly all the poorer northern states including Sabah and Sarawak had a significant increase of the number of acute beds averaging about 400 extra beds per state with Selangor having the largest increase of 1452 beds from 1980-2000. Surprisingly, Selangor being a wealthier state had such a drastic increase in the number of acute beds but in terms of total number of acute beds per 1000 population ratio, it recorded the lowest with only 0.6 beds per 1000

population. This was due to the high increase of population in the state mainly through migration from other states. See Table 6.13. By 2000, none of the states reached the target of two acute beds per 1,000 population and in terms of distribution, they were unequally distributed. Three states, namely, Selangor, Johor and Sabah had only one bed or below one bed for a 1,000 population.

**Table 6.13: Total Number of Acute Hospital Beds Per 1000 Population Ratio 1980-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1980	2.8	1.3	1.9	1.8	0.8	2.0	3.1	2.1	2.0	1.9	1.5	1.2	2.2	1.8	1.8
1981	2.4	1.2	1.8	0.7	1.9	2.8	1.8	1.8	1.6	1.6	1.2	0.9	1.7	1.5	1.5
1982															
1983	2.6	1.4	1.9	1.8	0.7	1.8	3.0	2.0	1.7	1.7	1.5	1.2	2.3	1.7	1.7
1984	2.0	1.2	1.7	1.6	0.7	2.0	2.5	1.7	1.4	1.4	1.2	0.7	1.5	1.5	1.4
1985	2.1	1.1	1.7	1.6	0.8	1.6	2.5	1.7	1.3	1.4	1.2	0.5	1.7	1.4	1.4
1986	2.1	1.2	1.7	1.6	0.8	1.6	2.4	1.6	1.3	1.3	1.5	0.7	1.6	1.4	1.4
1987	2.0	1.2	1.7	1.7	0.8	1.5	2.3	1.5	1.3	1.3	1.5	0.7	1.6	1.3	1.4
1988	2.0	1.1	1.7	1.6	0.8	1.5	2.2	1.5	1.3						
1989	2.0	1.1	1.7	1.6	0.7	1.5	2.2	1.4	1.3	1.3	1.4	0.9	1.5	1.3	1.3
1990	1.9	1.1	1.7	1.6	0.7	1.5	2.2	1.4	1.3	1.3	1.3	0.9	1.4	1.2	1.3
1991	1.9	1.2	1.8	1.9	0.6	1.8	2.0	1.6	1.3	1.3	1.3	1.0	1.2	1.3	1.3
1992	1.8	1.2	1.6	1.6	1.0	1.1	1.7	1.4	1.1	1.2	1.3	0.9	1.4	1.2	1.3
1993	1.8	1.2	1.6	1.6	0.7	1.6	1.7	1.3	1.1	1.2	1.2	0.9	1.3	1.3	1.2
1994	1.8	1.2	1.6	1.7	0.6	1.5	1.7	1.5	1.1	1.3	1.2	0.9	1.1	1.3	1.2
1995	1.7	1.2	1.4	1.8	0.6	1.5	1.6	1.4	1.1	1.2	1.2	0.9	1.0	1.4	1.2
1996	1.7	1.3	1.4	1.8	0.5	1.5	1.5	1.4	1.0	1.2	1.2	0.9	1.0	1.3	1.2
1997	1.7	1.2	1.4	1.8	0.5	1.5	1.5	1.4	1.0	1.2	1.1	0.9	1.0	1.4	1.2
1998	1.6	1.2	1.3	1.6	0.5	1.5	1.6	1.3	1.0	1.2	1.1	0.9	0.9	1.3	1.1
1999	1.6	1.2	1.3	1.6	0.8	1.5	1.5	1.3	1.0	1.2	1.0	0.9	0.9	1.3	1.1
2000	1.8	1.2	1.3	1.6	0.6	1.5	1.5	1.3	1.0	1.2	1.2	1.1	1.0	1.4	1.4
% ch.	-36.4	-9.4	-32.8	-13.8	-19.5	-27.7	-52.6	-40.3	-52.0	-33.5	-20.3	-6.7	-54.3	-22.7	-19.4

Note: % ch. - percentage of increase/decrease from 1980-2000.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

Overall, it clearly showed that the government was not able to achieve its target after 20 years. In the 3MP, the government stressed that emphasis would be given to the construction of new hospitals in districts with very low hospital beds to population ratio. Unfortunately by 2000, after four Malaysia Plans since the target were set, 10 out of 14 states even had their acute beds population ratio below the national average. In 1980 the ratio was better than in 2000 as 10 out of 14 states had 1.8 acute beds or more per a 1000 population. The only obvious outlier was Selangor and the situation worsened in 2000.

**Chart 6.7 : Total Number of MOH Acute Beds Per 1000 Population by State 1983-2000**

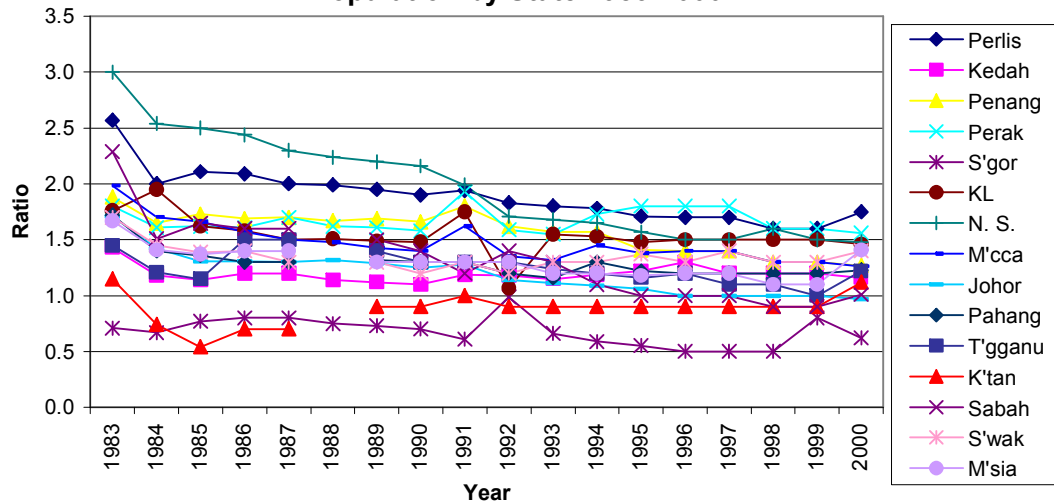


Chart 6.7 showed that the gaps among the states for the number of acute beds per 1,000 populations had narrowed quite significantly but some states did not show any improvements in the ratio such as Negeri Sembilan, Perlis and Sabah. The trend lines show that the number of acute beds was not sufficient for the increased population. Most of the other states had their ratio rather constant throughout the period from 1983 to 2000. Kelantan ratio declined but later improved to the same ratio as 1983. It was clearly seen that the government was unequally distributing the hospital physical resources to ensure a more equitable distribution by narrowing the gap among the different states so that the poorer states did not have too little and the wealthier states did not have too much. However, there was an outlier which was Selangor which had the lowest ratio. Even for this outlier, Selangor was compensated by a higher number of private hospitals and private beds.

Comparing these figures with the bed occupancy rate (BOR), there was quite a consistency in the distribution of hospital beds in meeting the demand. In the year 2000,

the bed occupancy rates for all states were within the range of approximately 50 to 70 percent occupied with the exception of Malacca which was just over 70 percent at 71.9 percent. See Table 6.14 and Chart 6.8 below. Overall, the rates were lower in 2000 than in 1985, the states with good BOR, for example, Kuala Lumpur, Penang and Sarawak went on a downward trend except for Malacca. The poor BOR showed that as far as efficiency was concerned, the government was more interested in providing health care facilities to meet equity goals rather than to improve efficiency in terms of utilisation rates.

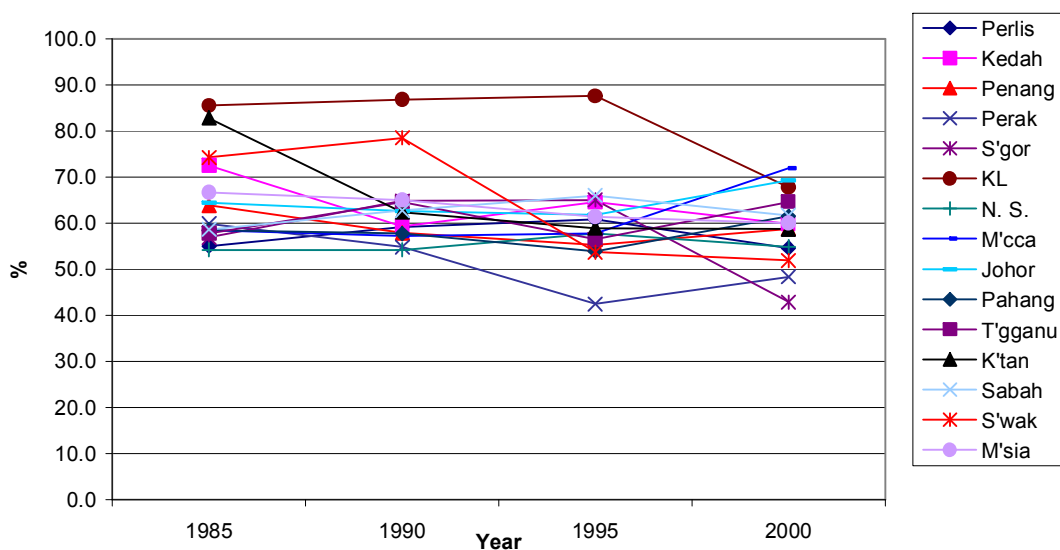
**Table 6.14: Bed Occupancy Rate in MOH Hospitals by State 1985-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1985	55.0	72.5	63.8	59.9	56.9	85.5	54.2	58.4	64.4	58.5	57.8	82.8	58.6	74.2	66.7
1990	59.2	59.3	57.9	54.8	64.8	86.8	54.2	57.2	62.6	57.7	64.6	62.4	62.7	78.5	65.0
1995	60.8	64.5	55.3	42.5	65.0	87.6	57.8	57.8	61.8	53.9	56.5	58.9	66.0	53.7	61.4
2000	54.6	59.8	58.8	48.4	42.9	67.8	54.9	71.9	69.3	61.5	64.6	58.7	61.7	51.9	60.0
% ch.	-0.7	-17.5	-7.8	-19.2	-24.6	-20.7	1.3	23.1	7.6	5.1	11.8	-29.1	5.3	-30.1	-10.0

Note: % ch. - percentage of increase/decrease from 1985-2000.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

**Chart 6.8 : MOH Hospitals Bed Occupancy Rate by State 1985-2000**



The rates did not show that the beds were fully utilised even for Selangor with such a low number of beds per 1000 population, the BOR still remained at only 42.9 percent. In

one respect, the unequal provision of hospital beds among the states were equitable in terms of meeting the demand of the population for public hospital services especially for the poorer states with a larger proportion of poorer population who could not afford expensive private hospitalisation.

This is clearly shown in Table 6.15 and 6.16 by the fact that the northern states had practically no private hospital or just a handful as compared to the wealthier states. In 1980, Perlis, Kedah, Kelantan and Malacca did not have any private hospitals and six other states had just five or fewer private hospitals in their states. As for the number of private beds, the east coast northern states like Terengganu and Kelantan had fewer than 20 private beds in 1990 and for Perlis there was none. These states solely depended on the government for the provision of hospital services. Even for the year 2000, Perlis had no private beds and Terengganu only had 17 compared to Kuala Lumpur which had the highest number of 2,353 followed by Selangor with 2,012.

**Table 6.15: Total Number of Private Hospitals and Maternity/Nursing Homes by State 1980-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1980	0	0	8	2	20*		1	0	5	3	1	0	1	9	50
1985	1	9	9	17	15	33	4	4	20	5	2	0	3	11	133
1990	0	8	16	21	27	40	5	6	21	6	1	2	8	13	174
1995	0	11	21	17	30	41	6	7	30	7	2	1	10	14	197
2000	0	14	23	15	48	43	7	7	35	8	2	2	11	9	224
No. ch.	-1	5	14	-2	33	10	3	3	15	3	0	2	8	-2	91

Note: % ch. - percentage of increase/decrease from 1980-2000.

\* includes Kuala Lumpur

Source: Ministry of Health Malaysia Annual Report for the respective years.

**Table 6.16: Total Number of Private Beds by State 1980-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1980	0	0	251	92	627*		19	0	33	32	10	0	10	97	1,171
1985	10	80	635	531	819	1,047	70	69	232	47	19	0	30	77	3,666
1990	0	126	872	572	912	1,143	95	113	379	68	14	15	201	165	4,675
1995	0	262	1,351	717	1,047	1,869	78	603	600	97	21	10	221	316	7,192
2000	0	379	1,644	757	2,012	2,358	177	673	784	143	17	63	221	319	9,547
No. ch.	-10	299	1009	226	1193	1311	107	604	552	96	-2	63	191	242	5881
% ch.	-100.0	373.8	158.9	42.6	145.7	125.2	152.9	875.4	237.9	204.3	-10.5	320.0	636.7	314.3	160.4

Note: % ch. - percentage of increase/decrease from 1980-2000.

\* includes Kuala Lumpur

Source: Ministry of Health Malaysia Annual Report for the respective years.

In terms of development allocation and expenditure, Table 6.17 below shows the total amount of allocation for physical development of rural health facilities and hospitals, which were mainly district hospitals as seen earlier, amounted to an average of 84 percent of the total development allocation and expenditure of the MOH. For the first decade, the amount spent was between 60 – 70 percent but for the two decades that followed, MOH was spending between 80-95 percent of the development budget on either, building rural health facilities and hospitals or on upgrading and improving these facilities. There was a large amount of money spent on physical development and upgrading facilities.

Besides basic health facilities like hospitals and clinics, there are also other health related projects which are carried out by the MOH directly and indirectly although not wholly, such as the institution of safe water supply system and sanitary latrines to improve the general cleanliness of the rural environment. In the midterm review of the 2MP in 1973, the government established a National Rural Environmental Sanitation Programme, which was later known as BAKAS or water supply and environmental sanitation programme, which was to ensure that rural communities have access to sanitary latrines and clean water. The total programme included a reasonable balance between water supply and excreta disposal activities together with health education, vector control, community participation and appropriate technology and training.

Table 6.18 below shows that in 1985 there were large disparities among the different states with population covered with safe water supply in the rural areas, for example, the lowest coverage was Terengganu with 34.5 percent and the highest coverage was Negeri Sembilan 92.1 percent but in 2000, all the states achieved above 90 percent



**Table 6.17: Development Allocation and Expenditure for Certain Categories 1970-2000**

Year	Rural Health Services	% of total (a)	Improvement to Hospitals	% of total (b)	New Hospitals	% of total (c)	(a)+(b)+(c)	Total
1970	4,521,010	20.5	2,398,980	10.9	10,682,554	48.4	79.8	22,064,644
	<i>3,783,933</i>	<i>22.8</i>	<i>1,124,326</i>	<i>6.8</i>	<i>8,660,204</i>	<i>52.2</i>	<i>81.7</i>	<i>16,605,467</i>
1971	5,315,000	20.0	2,736,010	10.3	10,754,995	40.5	70.9	26,523,680
	<i>2,995,525</i>	<i>18.0</i>	<i>1,259,529</i>	<i>7.6</i>	<i>7,596,020</i>	<i>45.6</i>	<i>71.1</i>	<i>16,665,539</i>
1972	5,680,837	19.0	6,050,010	20.3	9,259,860	31.0	70.3	29,840,017
	<i>4,277,737</i>	<i>19.0</i>	<i>4,566,284</i>	<i>20.3</i>	<i>8,122,608</i>	<i>36.1</i>	<i>75.4</i>	<i>22,491,374</i>
1973	8,700,000	17.2	9,913,050	19.6	14,780,782	29.3	66.1	50,523,000
	<i>5,600,838</i>	<i>19.1</i>	<i>6,215,059</i>	<i>21.1</i>	<i>7,877,522</i>	<i>26.8</i>	<i>67.0</i>	<i>29,387,363</i>
1974	10,779,585	21.6	8,173,125	16.3	15,080,090	30.2	68.1	50,000,000
	<i>7,378,720</i>	<i>20.6</i>	<i>5,801,362</i>	<i>16.2</i>	<i>11,038,539</i>	<i>30.8</i>	<i>67.6</i>	<i>35,822,950</i>
1975	10,049,000	17.1	9,790,000	16.6	19,145,638	32.6	66.3	58,809,634
	<i>7,833,638</i>	<i>16.6</i>	<i>5,823,611</i>	<i>12.4</i>	<i>17,262,753</i>	<i>36.7</i>	<i>65.7</i>	<i>47,094,462</i>
1976	9,149,160	12.1	13,400,000	17.7	28,011,190	37.0	66.9	75,619,310
	<i>5,385,346</i>	<i>15.6</i>	<i>5,977,341</i>	<i>17.4</i>	<i>11,347,321</i>	<i>32.9</i>	<i>65.9</i>	<i>34,451,061</i>
1977	12,515,000	16.4	12,000,000	15.7	27,047,140	35.4	67.5	76,442,460
	<i>4,488,408</i>	<i>15.3</i>	<i>3,486,096</i>	<i>11.9</i>	<i>11,483,863</i>	<i>39.1</i>	<i>66.2</i>	<i>29,378,861</i>
1978								
1979	20,845,765	24.4	11,356,750	13.3	26,920,640	31.5	69.2	85,421,210
	<i>9,510,049</i>	<i>27.7</i>	<i>4,108,831</i>	<i>12.0</i>	<i>10,801,735</i>	<i>31.5</i>	<i>71.2</i>	<i>34,310,802</i>
1980								
1981	28,300,000	32.5	12,643,833	14.5	26,644,490	30.6	77.6	87,045,195
	<i>25,517,789</i>	<i>33.1</i>	<i>11,252,894</i>	<i>14.6</i>	<i>25,406,511</i>	<i>32.9</i>	<i>80.6</i>	<i>77,172,608</i>
1982								
1983	43,063,560	29.4	13,230,320	9.0	73,120,657	50.0	88.4	146,380,789
	<i>30,533,428</i>	<i>25.9</i>	<i>8,773,952</i>	<i>7.4</i>	<i>66,578,174</i>	<i>56.4</i>	<i>89.7</i>	<i>118,030,849</i>
1984								
1985	29,961,530	20.0	8,136,210	5.4	109,251,270	72.9	98.3	149,903,850
	<i>18,580,261</i>	<i>19.1</i>	<i>4,790,517</i>	<i>4.9</i>	<i>72,482,837</i>	<i>74.5</i>	<i>98.5</i>	<i>97,339,870</i>
1986	34,681,010	24.2	11,877,000	8.3	84,411,330	59.0	91.5	143,174,380
	<i>20,258,497</i>	<i>18.6</i>	<i>8,753,434</i>	<i>8.1</i>	<i>75,905,624</i>	<i>69.8</i>	<i>96.5</i>	<i>108,688,129</i>
Year	Public Health		Health Facilities		Hospitals			Total
1987	37,169,550	39.9	19,108,180	20.5	30,693,470	33.0	93.4	93,090,410
	<i>20,557,997</i>	<i>40.2</i>	<i>8,627,376</i>	<i>16.9</i>	<i>17,693,781</i>	<i>34.6</i>	<i>91.7</i>	<i>51,097,014</i>
1988	37,844,000	31.0	43,192,450	35.4	24,566,490	20.1	86.6	121,987,780
	<i>29,958,518</i>	<i>44.8</i>	<i>21,192,332</i>	<i>31.7</i>	<i>10,704,760</i>	<i>16.0</i>	<i>92.6</i>	<i>66,833,600</i>
1989	46,881,000	21.1	122,640,200	55.2	30,425,420	13.7	90.0	222,153,930
	<i>48,110,351</i>	<i>22.0</i>	<i>118,396,532</i>	<i>54.2</i>	<i>30,378,759</i>	<i>13.9</i>	<i>90.1</i>	<i>218,417,682</i>
1990	68,099,000	13.5	223,046,890	44.2	183,661,360	36.4	94.0	504,996,260
	<i>58,864,749</i>	<i>12.8</i>	<i>212,357,011</i>	<i>46.2</i>	<i>161,255,647</i>	<i>35.1</i>	<i>94.1</i>	<i>459,518,426</i>
1991	56,711,000	8.3	221,217,970	32.2	378,065,000	55.1	95.6	686,449,990
	<i>48,177,986</i>	<i>8.5</i>	<i>162,686,779</i>	<i>28.6</i>	<i>332,186,060</i>	<i>58.4</i>	<i>95.5</i>	<i>568,816,764</i>
1992	46,698,000	6.8	159,056,553	23.1	438,029,447	63.5	93.4	689,416,200
	<i>34,018,628</i>	<i>5.7</i>	<i>125,522,914</i>	<i>21.1</i>	<i>401,427,790</i>	<i>67.4</i>	<i>94.2</i>	<i>595,486,267</i>
1993	50,173,000	9.1	105,166,000	19.1	369,884,000	67.3	95.6	549,473,910
	<i>32,313,075</i>	<i>7.7</i>	<i>66,350,270</i>	<i>15.9</i>	<i>298,529,968</i>	<i>71.6</i>	<i>95.2</i>	<i>417,113,497</i>
1994	46,602,000	12.4	81,540,170	21.6	224,944,830	59.7	93.6	377,082,800
	<i>40,851,495</i>	<i>11.8</i>	<i>69,378,109</i>	<i>20.1</i>	<i>215,705,905</i>	<i>62.5</i>	<i>94.4</i>	<i>345,301,711</i>
1995	62,723,000	14.7	145,427,000	34.0	175,952,100	41.1	89.8	427,966,000
	<i>57,809,153</i>	<i>15.4</i>	<i>131,541,319</i>	<i>34.9</i>	<i>144,410,326</i>	<i>38.4</i>	<i>88.7</i>	<i>376,440,688</i>
1996	124,247,000	22.8	185,257,000	34.0	207,496,000	38.1	94.9	544,644,000
	<i>112,563,255</i>	<i>25.2</i>	<i>158,635,831</i>	<i>35.5</i>	<i>157,250,727</i>	<i>35.2</i>	<i>95.8</i>	<i>447,034,359</i>
1997	127,632,967	22.1	156,959,831	27.1	263,180,202	45.5	94.7	578,538,000
	<i>106,682,398</i>	<i>23.8</i>	<i>146,203,715</i>	<i>32.6</i>	<i>177,537,228</i>	<i>39.6</i>	<i>96.0</i>	<i>448,583,929</i>
1998	138,158,000	18.6	169,221,000	22.8	318,685,000	42.9	84.2	743,186,000
	<i>120,933,901</i>	<i>16.9</i>	<i>166,672,211</i>	<i>23.3</i>	<i>318,684,305</i>	<i>44.5</i>	<i>84.7</i>	<i>716,229,385</i>
1999	239,014,000	26.6	188,686,000	21.0	317,500,000	35.3	82.8	900,000,010
	<i>203,238,113</i>	<i>24.3</i>	<i>179,536,765</i>	<i>21.5</i>	<i>307,364,024</i>	<i>36.8</i>	<i>82.6</i>	<i>835,426,034</i>
2000	370,783,000	28.7	259,481,000	20.1	480,984,000	37.3	86.2	1,289,858,000
	<i>368,272,552</i>	<i>29.0</i>	<i>252,027,255</i>	<i>19.8</i>	<i>486,550,401</i>	<i>38.3</i>	<i>87.0</i>	<i>1,271,974,940</i>

Source: Public Accounts, Accountant General, Malaysia for the respective years.

Note: Numbers in non-italic are allocations and in italic are expenditures.

coverage of safe water supply except Kelantan at 76.3 percent. As for sanitary latrines (see Table 6.19), in 1985, Johor had highest rural population covered with sanitary latrines with 89.5 percent coverage and the lowest was Kedah with only 51.9 percent coverage. However, in 2000, all the states had above 90 percent of the rural population covered with sanitary latrines except Johor with 85.2 percent covered not far from the rest. This figure could be questionable as in 1990 and 1995 Johor had 96.6 percent and 99.4 percent population covered with sanitary latrines in rural areas. Nonetheless in these two areas, the government had done well to ensure that environment sanitation improved which also contributed to the significant decrease in food- and water-borne endemic diseases in the rural areas.

**Table 6.18: Percentage Population Covered by Safe Water Supply in Rural Areas By State 1985-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1985	45.8	59.8	75.3	75.8	74.0	92.1	89.8	68.7	58.6	34.5	36.6	54.8	70.4	62.6
1990	63.5	66.9	88.0	83.4	83.3	91.2	92.9	81.8	82.5	56.3	54.9	72.6	79.6	75.1
1995	88.9	83.0	94.4	90.2	96.2	96.5	98.3	86.3	74.6	74.4	62.7	86.2	93.4	85.8
2000	95.5	95.4	99.7	98.4	96.1	98.6	97.8	92.7	97.3	90.1	76.3	92.7	96.0	92.9
% ch.	108.5	59.5	32.4	29.8	29.9	7.1	8.9	34.9	66.0	161.2	108.5	69.2	36.4	48.4

Note: % ch. - percentage of increase/decrease from 1985-2000.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

**Table 6.19: Percentage of Population Covered by Sanitary Latrines in Rural Areas by State 1985-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1985	57.0	51.9	71.9	63.2	64.8	85.0	80.7	89.5	62.4	65.6	54.8	57.3	62.9	65.4
1990	84.7	88.6	86.9	83.0	75.9	93.2	94.7	96.6	91.1	83.2	91.1	72.5	77.2	83.2
1995	95.6	91.6	99.4	99.2	96.2	97.8	99.9	99.4	98.1	97.6	94.9	82.2	90.6	94.3
2000	98.9	100.0	99.7	99.9	96.1	106.3	100.0	85.2	99.1	97.0	97.5	92.7	95.2	96.5
% ch.	73.5	92.7	38.7	58.1	48.3	25.1	23.9	-4.8	58.8	47.9	77.9	61.8	51.4	47.6

Note: % ch. - percentage of increase/decrease from 1985-2000.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

From the above analysis, the government placed a lot of emphasis on physical development especially for the rural population. Although this development was not equal in terms of distribution among the different states, with this unequal development of physical infrastructure the disparity gap between poorer states and the wealthier states narrowed. The rural population of the poorer states were not deprived of an equal access to health care should they choose to utilise them for free or at a nominal cost. However, the rural populations of the wealthier states were sidelined as the data shows that these states

were not given the same support as accorded for the poorer states. Generally, for what was intended in the national policy, the public health sector was able to deliver and fulfill to a large extent especially the poor in the rural areas.

Many of the health problems that were common among the poor such as infectious diseases, high infant mortality and unsanitary environmental conditions were significantly reduced. See Table 6.20. The health indicators showed that tremendous improvements for infant mortality rate which was reduced from 32.2 to 7.5 per thousand live births from 1975 to 2000. All states also experienced significant improvements with an average of more than 68 percent reduction. The highest improvement was Kedah from 40.2 to 5.3 per thousand live births followed by Selangor from 27.1 to 3.7 per thousand live births and Kelantan from 44.1 to 8.1 per thousand live births from 1975 to 2000. Chart 6.9 shows that for all states there was a significant downward trend for IMR.

Other health indicators such as toddler mortality rate and maternal mortality rate (see Tables 6.21 and 6.22) had similar significant improvements for all states. Health facilities and resources invested in providing better primary care and better sanitary environment had generally contributed to the reduction in mortality rates for the country and even among the different states especially the poorer states. The gap between the poorer and wealthier states in terms of overall health status improvements had significantly narrowed. Equity in terms of health infrastructure distribution has been achieved to a large extent.

**Table 6.20: Infant Moratlity Rate (per 1,000 Livebirths) by State 1975-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1975	42.6	40.2	29.9	32.9	27.1		26.8	33.9	31.0	32.0	38.4	44.1			
1980	24.2	28.3	20.1	24.9	19.6	11.4	22.5	19.6	24.8	27.4	31.0	30.9	22.8	19.5	23.8
1985	17.6	19.9	13.8	19.3	13.2	9.7	12.4	16.8	15.1	16.8	22.1	25.5	16.7	11.2	16.5
1990	16.9	14.8	10.2	13.2	11.8	9.6	11.1	12.7	13.8	10.2	15.3	13.5	17.1	10.0	13.1
1995	8.5	7.8	9.5	10.4	6.8	13.4	12.5	9.7	9.6	10.1	12.3	11.4	16.7	7.5	10.4
2000	9.5	5.3	6.0	7.9	3.7		5.9	7.4	8.4	8.6	9.6	8.1	11.1	8.5	7.5
% ch.	-77.7	-86.8	-79.9	-76.0	-86.3	17.5	-78.0	-78.2	-72.9	-73.1	-75.0	-81.6	-51.3	-56.4	-68.5

Note: % ch. - percentage of increase/decrease from 1980-2000.

Source: Vital Statistics Time Series Malaysia, 1963-1998, Dept. of Statistics Malaysia, 2001

Vital Statistics Malaysia (Special Edition) 2000, Dept. of Statistics Malaysia, 2000

**Table 6.21: Toddler Mortality Rate (per 1,000 Toddler Population) by State 1975-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1975	2.0	3.6	1.8	2.7	1.9		2.0	2.1	2.5	3.9	5.7	6.2			
1980	2.2	2.8	1.5	2.3	1.4	1.2	1.7	1.7	1.8	2.3	3.3	3.2	2.6	2.5	2.1
1985	1.3	1.8	0.8	1.5	1.1	0.5	1.0	1.0	0.9	1.7	2.4	2.2	2.0	0.9	1.4
1990	0.8	1.0	0.4	1.0	0.7	0.6	0.7	0.7	0.8	1.2	1.2	1.1	1.4	0.7	1.0
1995	0.5	0.7	0.8	1.0	0.6	0.7	0.7	0.8	0.6	1.0	0.9	1.1	1.0	1.6	0.8
2000	0.7	0.3	0.2	0.5	0.1		0.3	0.2	0.3	0.4	0.3	0.4	0.7	0.3	0.3
% ch.	-65.0	-91.7	-88.9	-81.5	-94.7	-41.7	-85.0	-90.5	-88.0	-89.7	-94.7	-93.5	-73.1	-88.0	-85.7

Note: % ch. - percentage of increase/decrease from 1980-2000.

Source: Vital Statistics Time Series Malaysia, 1963-1998, Dept. of Statistics Malaysia, 2001

Vital Statistics Malaysia (Special Edition) 2000, Dept. of Statistics Malaysia, 2000

**Table 6.22: Maternal Mortality Rate (per 100,000 Live births) by State 1975-2000**

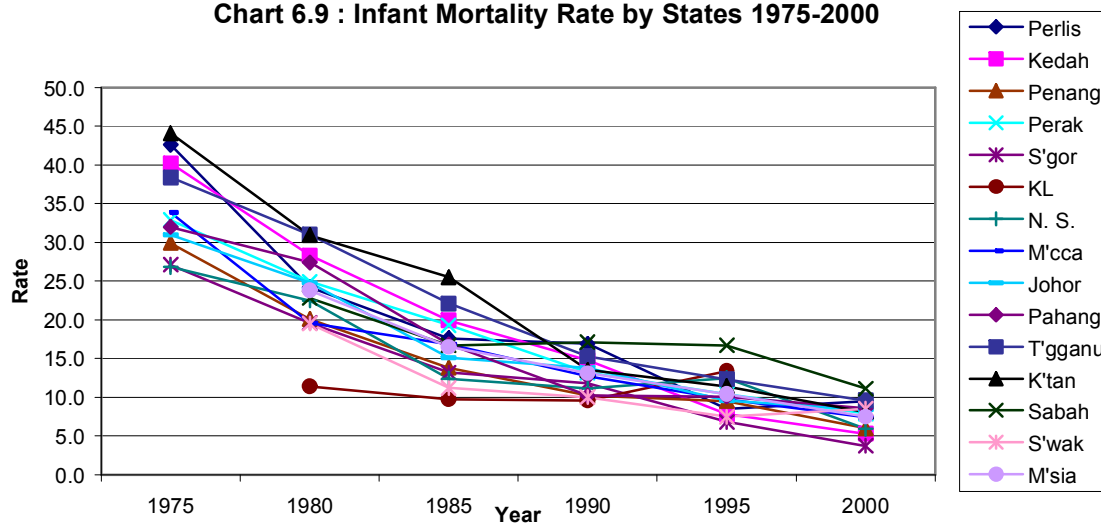
Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1975	1.1	1.1	0.4	1.0	0.5	N.A.	0.3	0.4	0.7	1.7	1.0	1.3	N.A.	N.A.	N.A.
1985	0.7	0.6	0.3	0.4	0.2	0.1	0.1	0.4	0.1	0.2	0.7	0.6	0.6	0.2	0.1
1990	0.4	0.3	0.2	0.2	0.2	0.0	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.1	20.2
1995	0.0	0.2	0.2	0.3	0.2	0.3	0.2	0.1	0.3	0.3	0.2	0.1	0.2	0.1	0.2
1998	0.2	0.4	0.3	0.2	0.2	0.4	0.1	0.4	0.3	0.4	0.2	0.2	0.4	0.2	0.3
% ch.	-81.1	-63.3	-28.6	-80.4	-59.2	400.0	-60.0	5.3	-55.2	-76.6	-80.2	-84.4	-33.3	-4.8	200.0

Note: % ch. - percentage of increase/decrease from 1975-2000.

Source: Vital Statistics Time Series Malaysia, 1963-1998, Dept. of Statistics Malaysia, 2001

Vital Statistics Malaysia (Special Edition) 2000, Dept. of Statistics Malaysia, 2000

**Chart 6.9 : Infant Mortality Rate by States 1975-2000**



### ***3.2 Human resource***

Prior to 1970, there existed a marked disparity and unequal distribution of medical and health personnel among the different states. Rural areas were especially lacking in health personnel. Poorer states such as Kelantan, Terengganu, Kedah, Sabah and Sarawak which had a higher percentage of rural population and poverty had ratio of one doctor to more than eight thousand population with Kelantan being the highest, that is, one doctor to serve every eleven thousand population, followed by Sabah (1:9420), Kedah (1:9,080), Terengganu (1:9,000) and Sarawak (1:8,100) in 1975. Richer states such as Selangor (including Federal Territory Kuala Lumpur) and Penang have a ratio of one doctor to every 2,080 and 3,260 population respectively for the same year. See Table 6.5 above. The national ratio was one doctor to every 4,650 for that same year and ten out of thirteen states had their ratio below the national average. In the 1970s, there was clearly an unequal distribution of doctors both in the public and the private sector among the states.

Most of the private medical practitioners were concentrated in the urban areas. In 1970, out of 2,370 doctors issued with annual practising certificates, 807 doctors or 34 percent were in the public sector while 1,563 or 66 percent were in private practice. See Table 6.23. The rural population at that time constituted more than 70 percent of the total population and that these private practitioners were mostly in the urban areas showed an unequal distribution of professional health personnel between the rural and urban areas as well as among the different states. In 1980, Kuala Lumpur alone, being the capital of Malaysia had the lowest ratio with one doctor to every 939 population compared to Kelantan, having the highest ratio with one doctor for every 9,970 population. The

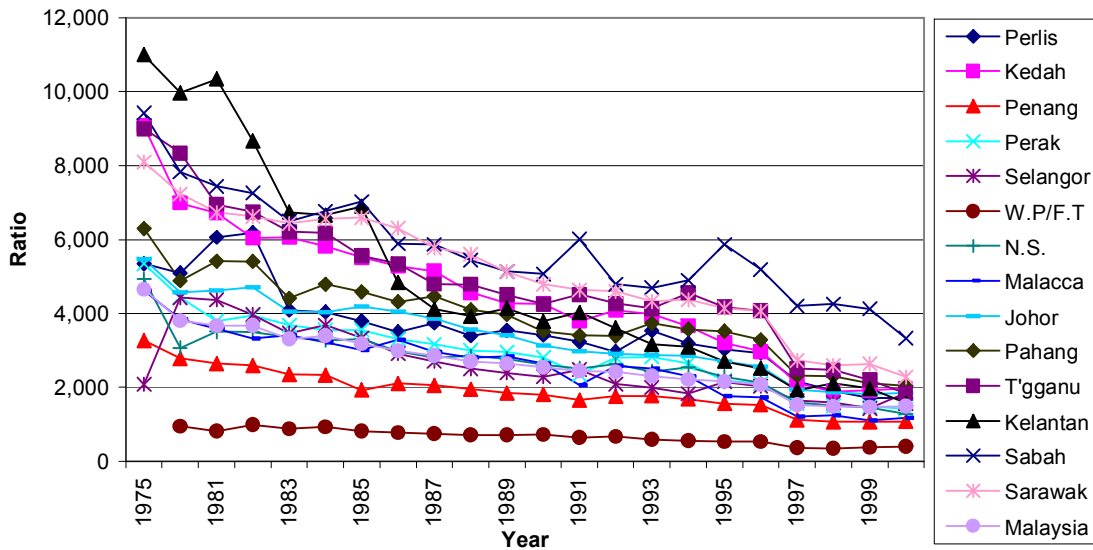
disparity was more than ten times. However, on closer examination of the trend, Chart 6.10 below shows a very wide gap among the states in terms of doctor population ratio in 1975 but most of the states steadily narrowed the gap in 2000 except for Sabah on the higher end and Kuala Lumpur on the lower end. Despite these 2 outliers, the distribution of doctors in the public sector, which favoured the poorer states, were equitable in narrowing the gap and the differences among the states.

**Table 6.23: Total Number & Percentage of Medical Practitioners in the Public and Private Sector in Malaysia 1970-2000**

Year	Public Sector	Private Sector	Total	% in Public	% in Private
1970	807	1,563	2,370	34.1	65.9
1971	807	1,563	2,370	34.1	65.9
1972	1,357	942	2,299	59.0	41.0
1973	1,357	942	2,299	59.0	41.0
1974	1,388	986	2,374	58.5	41.5
1975	1,544	1,213	2,757	56.0	44.0
1976	1,648	1,274	2,922	56.4	43.6
1977	1,718	1,340	3,058	56.2	43.8
1978	1,732	1,436	3,168	54.7	45.3
1979	1,797	1,717	3,514	51.1	48.9
1980	2,062	1,796	3,858	53.4	46.6
1981	1,986	1,955	3,941	50.4	49.6
1982	2,034	2,200	4,234	48.0	52.0
1983	2,045	2,429	4,474	45.7	54.3
1984	2,061	2,444	4,505	45.7	54.3
1985	2,228	2,711	4,939	45.1	54.9
1986	2,244	3,150	5,394	41.6	58.4
1987	2,463	3,331	5,794	42.5	57.5
1988	2,666	3,608	6,274	42.5	57.5
1989	2,781	3,796	6,577	42.3	57.7
1990	3,021	3,991	7,012	43.1	56.9
1991	3,069	4,129	7,198	42.6	57.4
1992	3,516	4,203	7,719	45.5	54.5
1993	3,810	4,469	8,279	46.0	54.0
1994	4,023	4,808	8,831	45.6	54.4
1995	4,412	5,196	9,608	45.9	54.1
1996	4,614	5,582	10,196	45.3	54.7
1997	8,235	6,013	14,248	57.8	42.2
1998	8,555	6,461	15,016	57.0	43.0
1999	8,723	6,780	15,503	56.3	43.7
2000	8,410	7,209	15,619	53.8	46.2

Source: Ministry of Health Annual Report for the respective years.

**Chart 6.10 : Doctor Population Ratio by States 1970-2000**



Other health personnel were also unevenly distributed among the states. See Table 6.24 for the distribution of dentists from 1985 to 1998. In 1985, the lowest ratio was recorded again with the Federal Territory of Kuala Lumpur having one dentist for every 4,797 population compared to Sabah with one dentist for every 38,853 population, a grave disparity of eight times over. Eight out of nine states had their ratio above the national average ratio. In terms of public private mix, the number of dentists in the private sector began to outnumber those in the public sector from 1990 onwards and the gap has kept widening since. The number of dentists in the public sector on the other hand dwindled in number by almost four percent after a decade. It was very obvious that many opted out to the private sector after completing their degree because dentists were not required to serve the government after they graduated unlike the doctors who are required to serve the government for at least two years under the Medical Act 1971. In meeting the shortages in the public sector the government has implemented compulsory government service for all

dental graduates with effect from 24<sup>th</sup> July 2001. With this compulsory service it was hoped that the unequal balance of the distribution of dentists would improve.

**Table 6.24: Population per MOH Health Manpower Ratio by Category as on 31 December 1998**

Category of Health Manpower	P. Malaysia		Sabah		Sarawak		Malaysia	
	No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio
Doctor	7,637	1:2,275	417	1:6,746	501	1:3,972	8,533	1:2,593
Dentist	802	1:21,666	30	1:93,763	41	1:48,541	873	1:25,406
Radiographer	355	1:51,870	14	1:200,921	14	1:142,157	363	1:61,101
Health Inspector	1,050	1:16,549	168	1:16,743	164	1:12,135	1,382	1:16,049
Physiotherapists	211	1:82,353	26	1:108,188	21	1:94,771	258	1:85,967
Radiographer	462	1:37,611	30	1:93,763	59	1:33,732	551	1:40,253
Staff Nurse	15,272	1:1,138	1,573	1:1,788	1,289	1:1,544	18,134	1:1,223
Assistant Nurse	6,481	1:2,681	1,340	1:2,099	237	1:8,397	8,058	1:2,752
Community Nurse	4,206	1:4,131	850	1:3,309	1,464	1:1,359	6,520	1:3,402
Dental Nurse	1,098	1:15,826	163	1:17,257	206	1:9,661	1,467	1:15,119
Dental Technician	370	1:46,963	30	1:93,763	42	1:47,386	442	1:50,180
Dental Surgery Assistant	961	1:18,082	88	1:31,965	83	1:23,978	1,132	1:19,593
Medical Assistant	4,138	1:4,199	619	1:4,544	779	1:2,555	5,536	1:4,006
Pharmacy Assistant	1,569	1:11,075	243	1:11,576	235	1:8,469	2,047	1:10,835
Med. Lab. Technologists	1,576	1:11,026	201	1:13,995	232	1:8,578	2,009	1:11,040

Source: Malaysia's Health, 1999 Technical Report of the Director General of Health Malaysia, 1999.

As in the case of doctors, dentists also concentrated in the urban areas and in states with higher percentage of urban population like Selangor and F.T. Kuala Lumpur and in 2000, dentists in the private sector outnumbered those in the public sector by three to five times. This widening gap was obviously detrimental to the equity goals of having a fair distribution of health manpower between the poor and the rich and among the different regions. The disparity was worse in the provision of dentists than doctors in the country. Sabah and Sarawak simply did not have enough dentists to serve its population.

The total number of pharmacists in the public and private sectors also showed an unequal distribution where the private sector constituted about 70 percent of the total registered pharmacists in the country. The gap was also widening in 1999 and 2000 as more than 80 percent were in the private sector. See Table 6.25. The distribution among the different states also showed a similar trend where the states which were wealthier with



more urban population had a pharmacist serving a smaller population. Table 6.26 shows that in 2000, the Federal Territory of Kuala Lumpur, Penang and Selangor had one pharmacist for less than 6,000 people whereas on the other end Sabah has only one pharmacist for every 33,205 population. All the other 11 states had their ratio above the national average of one pharmacist for every 9,972.

**Table 6.25: Total Number and Percentage of Pharmacist Public and Private Mix 1980-2000**

Year	Public	Private	Total	% Public	% Private
1980	159	324	483	32.9	67.1
1981	190	340	530	35.8	64.2
1982	234	397	631	37.1	62.9
1983	242	414	656	36.9	63.1
1984	291	443	734	39.6	60.4
1985	340	503	843	40.3	59.7
1986	372	591	963	38.6	61.4
1987	374	676	1050	35.6	64.4
1988	361	723	1084	33.3	66.7
1989	365	805	1170	31.2	68.8
1990	399	840	1239	32.2	67.8
1991	423	791	1214	34.8	65.2
1992	423	928	1351	31.3	68.7
1993	373	951	1324	28.2	71.8
1994	397	1113	1510	26.3	73.7
1995	353	1184	1537	23.0	77.0
1996	402	1313	1715	23.4	76.6
1997					
1998					
1999	401	1917	2318	17.3	82.7
2000	434	1899	2333	18.6	81.4

*Source: Ministry of Health Annual Report for the respective years.*

**Table 6.26: Total Number of Pharmacists In the Public and Private Sector and Pharmacist Per Population Ratio 2000**

States	2000			
	Public	Private	Total	Ratio
Perlis	5	8	13	1:15731
Kedah	29	88	117	1:14120
Penang	51	206	257	1:5088
Perak	30	156	186	1:11342
Selangor	85	619	704	1:5930
W.P/F.T	66	319	385	1:3559
N. Sembilan	16	50	66	1:13000
Malacca	12	48	60	1:10568
Johor	25	114	139	1:19582
Pahang	25	37	62	1:20806
Terengganu	15	19	34	1:26441
Kelantan	45	59	104	1:12643
Sabah	15	65	80	1:33205
Sarawak	15	11	26	1:16443
Malaysia	434	1899	2333	1:9972

Source: Ministry of Health Annual Report 2000

**Table 6.27: Population per Health Manpower Ratio by Category, Public & Private Mix 1995-2000**

Year	Mix	Doctor		Dentist		Pharmacists		Nurses		Rural Nurses/Midwives	
		No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio
1995	Public	4 412	1:4 689	748	1:27 659	353	1:58 610	13 647	1:1 516	5 495	1:3 765
	Private	5 196	1:3 982	1 002	1:20 648	1 184	1:17 474	N.A.	-	N.A.	-
	<b>Total</b>	<b>9 608</b>	<b>1:2 153</b>	<b>1 750</b>	<b>1:11 822</b>	<b>1 537</b>	<b>1:13 461</b>	<b>13 647</b>	<b>1:1 516*</b>	<b>5 495</b>	<b>1:3 765*</b>
1996	Public	4 614	1:4 588	738	1:28 684	402	1:52 659	14 614	1:1 449	5 746	1:3 684
	Private	5 582	1:3 792	1 062	1:19 933	1 313	1:16 123	5 442	1:3 890	150	1:141 126
	<b>Total</b>	<b>10 196</b>	<b>1:2 076</b>	<b>1 800</b>	<b>1:11 761</b>	<b>1 715</b>	<b>1:12 343</b>	<b>20 056</b>	<b>1:1 055</b>	<b>5 896</b>	<b>1:3 590</b>
1997	Public	8 235	1: 2 631	755	1: 28 696	399	1: 54 300	16 068	1: 1 348	5 827	1: 3 718
	Private	6 013	1: 3 603	1 110	1: 19 518	1 347	1: 16 084	8 477	1: 2 556	50	1: 143 310
	<b>Total</b>	<b>14 248</b>	<b>1: 1 521</b>	<b>1 865</b>	<b>1: 11 617</b>	<b>1 746</b>	<b>1: 12 409</b>	<b>24 545</b>	<b>1: 883</b>	<b>5 877</b>	<b>1: 3 686</b>
1998	Public	8 555	1: 2 593	873	1: 25 406	363	1: 61 101	18 134	1: 1 223	6 250	1: 3 402
	Private	6 461	1: 3 433	1 231	1: 18 017	1 766	1: 12 559	5 538	1: 4 005	100	1: 221 795
	<b>Total</b>	<b>15 016</b>	<b>1: 1 477</b>	<b>2 104</b>	<b>1: 10 542</b>	<b>2 129</b>	<b>1: 10 418</b>	<b>23 672</b>	<b>1: 937</b>	<b>6 620</b>	<b>1: 3 350</b>
1999	Public	8 723	1: 2 604	803	1: 28 284	401	1: 56 638	20 914	1: 1 086	6 731	1: 3 374
	Private	6 780	1: 3 350	1 106	1: 20 535	1 917	1: 11 848	6 322	1: 3 593	180	1: 126 177
	<b>Total</b>	<b>15 503</b>	<b>1: 1 465</b>	<b>1 909</b>	<b>1: 11 897</b>	<b>2 318</b>	<b>1: 9 798</b>	<b>23 236</b>	<b>1: 834</b>	<b>6 911</b>	<b>1: 3 286</b>
2000	Public	8 410	1: 2 766	750	1: 31 021	434	1: 53 609	23 255	1: 1 000	7 507	1: 3 099
	Private	7 209	1: 3 227	1 394	1: 16 690	1 899	1: 12 252	7 874	1: 2 955	204	1: 114 050
	<b>Total</b>	<b>15 619</b>	<b>1: 1 490</b>	<b>2 144</b>	<b>1: 10 851</b>	<b>2 333</b>	<b>1: 9 972</b>	<b>31 129</b>	<b>1: 747</b>	<b>7 711</b>	<b>1: 3 017</b>

Source: Health Facts, Ministry of Health, Malaysia for the respective years

Table 6.27 gives the total number of health personnel in the public and private sector as well as per population ratio for five categories of manpower. Interestingly, there seemed to be a reverse trend in terms of public and private mix of doctors from 1997 onwards where there were more serving the public sector but not for dentists and

pharmacists where their numbers were two to four times higher in the private sector compared to the public sector. This inequality would mean that the population would have to pay private fees for their services. As for nurses and rural nurses/midwives, the government has always taken the lead in their employment where their ratio per population has been low for the public sector, one nurse for an average of every 1,000 population and a rural nurse/midwife for every 3,000 of population. The inequity in the distribution of dentists and pharmacists is clearly shown in the data above where there were only 34.98 percent of dentists and 18.60 percent of pharmacists in the public sector in 2000 compared to 65.01 percent and 81.4 percent in the private sector respectively.

Since manpower is an important input required by the health sector and the health expenditure for manpower usually takes up a large proportion of the healthcare resources, the move by the government to increase the lower-cost manpower inputs such as nurses and community nurses not only provided more health personnel to the population for its expanded primary care services but it was an efficiency-gain in terms of input-cost. The ratios above indicated that the public sector has always relied on the cheaper health personnel for its rural and public health services which were equally effective rather than the more expensive professional manpower for primary care and minor ailments when the job can be done equally well by these support staff especially in the rural areas.

The high rural nurses/midwives population ratio in the private sector with one personnel for more than 110,000 of population showed that the private sector was not interested in the rural areas, what more to provide preventive healthcare programmes which did not bring profit to them. The MOH rural clinics in the rural areas were manned by only

two community/rural nurses who provided treatment for light ailments beside their midwifery role to the rural population which allowed greater accessibility to the rural population within reasonable access at least for very basic primary healthcare and as a source for referral for higher care, if required.

Although there was still a big gap between the public sector and private sector in terms of distribution of health personnel, on closer analysis considering that the urban population has over the decades grown and outnumbered the rural population, the government needs to realign its health manpower distribution strategies to meet the actual needs of the population. See Table 6.28. From 1990 onwards there were more urban dwellers than rural dwellers in the country and by 2000, the urban population reached 62 percent of the country's total population. However, certain states like Kelantan, Terengganu, Pahang, Perlis, Kedah, Sabah and Sarawak still had between 50 to 65 percent of rural population. At this point, the distribution of health manpower did not fully reflect the change in the demographic composition of the rural-urban mix as the poor population existed both in the rural and urban areas and disparities still existed among the different regions.

Table 6.24 above gives the distribution of health manpower by region for 1998 and the figures show that there was still a gross imbalance in terms of public manpower distribution among the different regions especially in Sabah. For all categories of health manpower, Sabah has the highest population per health manpower ratio except for community nurses and assistant nurses. Sabah has acute shortages of doctors, dentists, pharmacists, physiotherapists, radiographers and staff nurse as their ratios were way above

the national average. Although one may argue that the shortage of staff nurses were compensated by the large number of community and assistant nurses but on the whole the disparity among the various categories of health manpower did not show that the government had achieved much equity in terms of distribution of health care manpower resources. However, there was this lack of the right mix of health personnel for a totally equitable and an allocatively efficient provision of the health manpower for the country. Improvements in the provision of the right mix seemed to be concentrated in certain regions particularly the east coast states of West Malaysia but not for East Malaysia. Sarawak also had acute shortages of dentists, pharmacists and assistant nurse.

**Table 6.28: Estimated Rural and Urban Population for Malaysia 1970-2000**

Year	Estimated Rural Population	% to Total	Estimated Urban Population	% to Total	Estimated Total Population
1970	7,651,626	73.9	2,704,332	26.1	10,355,958
1971					10,694,927
1972					11,002,862
1973					11,308,990
1974					11,607,151
1975					11,909,592
1976					11,104,833
1977					11,368,881
1978					10,761,615
1979					11,029,400
1980					11,973,320
1981					13,646,866
1982					14,487,393
1983	9,753,989	65.9	5,047,209	34.1	14,888,513
1984	10,057,795	65.9	5,204,413	34.1	15,271,223
1985	10,300,984	61.8	6,375,716	38.2	15,681,114
1986	10,608,824	65.9	5,500,312	34.1	16,109,740
1987	10,804,300	65.4	5,721,297	34.6	16,526,478
1988	11,070,400	65.3	5,871,380	34.7	16,942,611
1989	10,380,264	59.8	6,972,910	40.2	17,353,933
1990	10,629,051	59.8	7,133,920	40.2	17,762,971
1991	8,670,757	49.4	8,896,225	50.6	17,566,982
1992	8,838,299	47.5	9,773,619	52.5	18,611,700
1993	8,988,800	47.2	10,072,196	52.8	19,060,996
1994	9,021,775	45.9	10,636,151	54.1	19,657,926
1995	9,372,200	45.3	11,317,400	54.7	20,689,300
1996	9,392,800	44.4	11,776,100	55.6	21,168,900
1997	9,432,600	43.5	12,232,900	56.5	20,997,200
1998	9,447,100	42.6	12,732,600	57.4	22,179,700
1999	9,526,400	41.9	13,185,500	58.1	22,758,900
2000	8,850,500	38.0	14,415,600	62.0	23,266,100

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

The Government of Malaysia after recognising the shortages of health manpower in the country and the unequal distribution among the different states, high priority was given to training in the 2MP. Training schools were established and expanded to increase the enrolment of health manpower. By the 3MP, the following schools and faculties were established; a medical faculty in National University of Malaysia (UKM) where the first batch of 40 medical students were enrolled in 1973; a dental faculty in University Malaya where the first batch of 32 dentistry students were enrolled in 1972; the establishment of three new nurses training schools to increase the intake of trainee nurses to 1800 per year and also training schools for orthopaedic nursing, junior medical laboratory assistants and rural nurses. Eighteen small assistant nurses' training schools were also regrouped into six regional training centres with each centre capable of training 240 assistant nurses. Both in Sabah and Sarawak, a new training complex for junior hospital assistants and rural nurses and a new rural health training school were established respectively by the 3MP. See also Table 6.9 above. From 1985 to 2000, there was an increase of 162.2 percent of intake for doctors, 331.6 percent for dentists, 528.3 percent for nurses, 692.6 percent community nurses and rural nurses and 265.6 percent increase for medical assistants. However, the actual increase came only at the second half of the nineties.

In terms of budget allocated for training, the development budget for training for building training colleges had increased from RM1.55 million in 1970 to RM61.41 million in 2000, an increase of almost 40 times. See Table 6.29. Although the training development budget was only five percent of the total MOH development budget, in nominal terms the amount spent on developing training facilities was very substantial. The operating budget for training had also increased from RM10.2 million in 1974 to 125.3

million in 2000 which was an increase of 12.2 times in 25 years and it took up an average of almost four percent of the total MOH operating budget rather consistently. The budget for training had increased rather parallel to the increase in the total MOH budget.

**Table 6.29: MOH Training Budget 1970-2000**

Year	Training Development Budget	% to Total Dev. Budget	Training Operating Budget	% to Total Op. Budget
1970	1,550,000	5.0		
1971	559,650	1.6		
1972	2,150,020	5.9		
1973	8,851,010	15.0		
1974	6,015,880	9.7	10,213,100	3.5
1975	5,647,150	8.0	10,360,300	3.1
1976	5,247,750	5.6	9,742,000	2.6
1977	6,734,010	7.3	11,117,000	2.5
1978	7,351,020	8.4	14,856,000	2.6
1979	6,987,023	6.4	16,871,504	2.6
1980	8,908,460	6.5	25,692,600	3.4
1981	6,837,800	5.7	47,654,950	5.3
1982	7,756,090	5.2	47,986,491	5.2
1983	5,201,457	2.9	44,073,000	5.1
1984			51,759,000	5.4
1985	1,133,780	0.7	57,767,000	5.3
1986			46,997,200	4.2
1987	1,570,080	1.7	43,552,400	4.0
1988	3,923,000	3.2	42,871,100	3.8
1989	3,284,000	1.5	43,293,900	3.5
1990	7,183,000	1.4	55,696,100	4.2
1991	10,187,000	1.5	51,274,000	3.4
1992	23,264,000	3.4	60,972,173	3.4
1993	14,729,000	2.7	68,152,630	3.4
1994	15,808,000	4.2	99,752,630	4.8
1995	14,627,000	3.4	105,453,200	4.5
1996	27,644,000	5.1	107,802,600	3.7
1997	30,765,000	5.3	125,516,800	3.9
1998	30,170,000	4.1	131,308,300	3.8
1999	69,800,000	7.8	131,657,688	3.6
2000	61,410,000	6.8	125,341,850	3.0

Source: Public Accounts, Accountant General, Malaysia for the respective years.

Despite the gradual increase in the training budget, the distribution of some essential health manpower was not equitably done and the disparities among the different regions still existed. The government was not able to retain doctors in the public service and to attract the dentists and pharmacists into the public sector, hence the continuous shortfall in supply. The cost of training of health personnel had increased tremendously and it would not be allocative efficient if the personnel were not deployed appropriately. Over-supply of nurses would also be allocatively inefficient if they were not deployed to where the needs were.

The total MOH health manpower posts had increased by 195.7 percent from 1970 to 2000, a total of additional 71,609 posts in 30 years. See Table 6.30. The management and professional group had an average of 75 percent of the posts filled from 1985-2000 while the support group fared better with an average of 87 percent posts filled. The shortfall for the management and professional group was about 25 percent and if this shortfall was not rectified MOH would have jeopardised the operation of its services.



**Table 6.30: Total MOH Posts Available and Filled by Groups as year ended 31st December 1970-2000**

Year	Mgt & professional posts			Support group posts			Total no. of posts		
	Available	Filled	% Filled	Available	Filled	% Filled	Available	Filled	% Filled
1970							36,594		
1980							73,901		
1981							76,531		
1982							79,113		
1983	4,802			75,604			80,406	70,047	87.1
1984	5,262			77,150			82,412	70,540	85.6
1985	5,340	3,507	65.7	78,789	70,736	89.8	84,129	74,243	88.2
1986	5,868	4,466	76.1	81,592	70,524	86.4	87,460	74,990	85.7
1987	5,863	4,677	79.8	81,405	71,988	88.4	87,268	76,665	87.9
1988	6,193	5,066	81.8	82,001	71,725	87.5	88,194	76,791	87.1
1989	6,889	4,760	69.1	83,485	72,395	86.7	90,374	77,155	85.4
1990	7,119	5,344	75.1	84,752	72,650	85.7	91,871	77,994	84.9
1991	7,942	5,332	67.1	85,767	73,972	86.2	93,709	79,304	84.6
1992	7,889	5,788	73.4	86,332	74,714	86.5	94,221	80,502	85.4
1993	8,711	5,689	65.3	88,442	75,655	85.5	97,153	81,344	83.7
1994	8,600	8,740	101.6	88,557	85,300	96.3	97,157	94,040	96.8
1995	9,388	7,041	75.0	87,698	77,798	88.7	97,086	84,839	87.4
1996	9,883	6,484	65.6	92,738	80,181	86.5	102,621	86,665	84.5
1997	11,249	7,867	69.9	93,028	80,458	86.5	104,277	88,325	84.7
1998	10,612	8,517	80.3	97,491	80,881	83.0	108,103	89,398	82.7
1999	10,820	8,608	79.6	98,972	85,206	86.1	109,792	93,814	85.4
2000	10,612	8,369	78.9	97,591	87,902	90.1	108,203	96,271	89.0

Source: Ministry of Health Annual Report for the respective years.

To meet the shortages, MOH recruited medical specialists, medical officers and nurses from abroad to fill the vacancies in the interior especially in Sabah and Sarawak where the locals were unwilling to serve. However, the numbers of foreign workers recruited were relatively small compared to the vacancies available and they were mainly medical specialists, medical doctors and nurses. Their contractual employment was for a period of three years, renewable up to the maximum of seven years and they were mostly deployed to the remote areas in Sabah, Sarawak and the east coast states in Peninsular Malaysia. Even with the foreign doctors in Sabah and other remote areas the shortages were still acute in these regions especially for Sabah.

The MOH had set targets to achieve equitable distribution of manpower for all the states and these targets were revised periodically to ensure that the system was responsive

to the needs of the population. In 1975, the target for distribution of doctors was one doctor for every 3000 population by 1980 and the ratio was further reduced to one doctor for every 2,000 population as stated in the 5MP. There were some successes recorded with the mandatory service of newly graduated doctors and expansion of medical colleges in the affected states which brought about the improvement of population per doctor ratio as eleven out of fourteen states were able to meet the target set except for Sabah, Sarawak and Pahang. The government is now targeting to produce 2,500 doctors by year 2010 through the introduction of medical schools in all local universities.

Kelantan did remarkably well, reducing its population per doctor ratio from 11,000 to 1,567 in 25 years, especially after the setting up of a medical faculty in the state under the University of Science, Malaysia (USM). The intake of medical students was from the rural areas and their training in the state did have some impact on retaining the young doctors to later stay on to practise in the state.

However, inequity in terms of the distribution of health personnel geographically still existed. The multiple incentives given by the government such as in-service training, free quarters for staff on call as well as those serving in the rural areas, higher specialists' allowance, opportunities for post-graduate training locally and abroad<sup>294</sup>, and additional critical allowance for those in the clinical service have not been able to retain doctors and other health professionals in the public sector, what more to serve in areas which were

---

<sup>294</sup> The Seventh Malaysia Plan (7MP) midterm review recorded that 537 scholarships were offered for post graduate study for the health sector alone.

technically and geographically unappealing to them. The MOH has an average of 200 medical doctors including specialists resigning from the public service each year.

The inadequate supply of doctors and other health professionals such as dentists and pharmacists has not only created a heavy workload for those who remained in the public sector but this has affected the delivery of services such as long waiting times and congestion in the public sector. The inequity of the shortage of health personnel was also clearly shown in the distribution among the different states in Malaysia, for example, the population per doctor ratio for Sabah was 1:4,500, Sarawak 1:2,500, Klang Valley 1:500 and in particular the capital Kuala Lumpur 1:300 which was lower than the developed countries' rate of 1:600.

Up to year 2000, many perks and incentives were given by the government to retain the doctors in the public sector, as shown in Table 6.31, but they were insufficient to retain them. Besides this, other efforts by the government included providing opportunities to pursue specialist programmes and opportunities to attend courses, seminars and conferences abroad and locally. Others included the speeding-up promotions, upgrading existing facilities and new equipment, providing better opportunities in research, minimizing uprooting of families and giving regional allowances and paid-passages for the whole family for those who work in Sabah and Sarawak. They were rotated every 2-3 years to enable them to return to Peninsular Malaysia.

**Table 6.31: Perks and Incentives Given to Doctors Serving in the Public Sector**

<b>Perks and Incentives</b>	(depending on grade and eligibility)
Specialists Allowance	RM1,200 - RM2,400 per month
Critical Allowance	Up to RM500.00 per month
On Call Allowance	Between RM15 - RM90 per day
Public Medical Officer Allowance	RM840 - RM1,680 per month
Hospital Administration Incentives	RM840 - RM1,680 per month
Fixed Housing Incentives	RM165 - RM2,500 per month
Maid Allowance	RM500 - RM1,000 a month
Payment for preparing medical reports	RM40 - RM1,000 a month
Computer Loan	RM5,000
2 points officer's salary increase for specialist in any medical field	
Use of office cars	
Housing and car loan at 4% interest	
Quarters provided	

Source: Human Resource Division,  
Ministry of Health, Malaysia

The most recent incentives given were to release doctors from being tied up with administrative work so that they may concentrate fully on clinical work, extending their employment to the age of 65 years and exempting tax for out-of-office allowances. The MOH also created a new category of “super doctors” to allow non-specialist doctors to be put on a special salary scale and continue to practice medicine without having to become administrators. More promotional posts were created and special Bahasa Malaysia language tests were conducted for doctors who did not pass the Bahasa Malaysia paper in *Sijil Peperiksaan Malaysia* (“O” level) exams so that they could be confirmed in service. A new salary scheme was also implemented for other health personnel such as paramedics, nurses, medical trainers and science officers.

The inadequate supply of health manpower in the public health sector has been an issue since health care was established in Malaysia. This was a perpetual problem in the Malaysian public health system since the colonial days. Private doctors get paid ten times

more than their counterparts in the public sector and the government loses skilled doctors to the private sector.<sup>295</sup> A doctor from Sabah wrote to the press expressing the reasons why doctors leave the public service: some of the reasons given were the unreasonable working hours that could stretch to 32 hours at a stretch, an average of seven to ten calls a month apart from their daily work, no lunch break when the doctors go on call duty and for each call they were only paid RM3.87 per hour.<sup>296</sup>

**Table 6.32: Doctors Leaving the Public Sector 1990-1998**

Year	Medical Officer	Specialists	Total
1990	251	34	285
1991	237	35	272
1992	226	27	254
1993	323	20	343
1994	275	16	291
1995	323	42	365
1996	345	58	403
1997	351	44	395
1998	253	63	316

*Source: Human Resource Division,  
Ministry of Health, Malaysia.*

Besides their clinical work, many doctors complained of their having to cope with administrative paper work and attending courses which took their time away. Therefore it was not surprising that with the growth of the private sector many of the highly qualified medical and nursing staff from the public sector have been lured into the private sector for higher pay and improved working conditions. On average 324 doctors including specialists resigned from the public sector to join the private sector every year. See Table 6.32.

The corporatisation of the teaching hospitals in Malaysia has allowed some flexibility to check brain drain to the private sector. For example, University Malaya

<sup>295</sup> New Straits Time, 17 June 2002

<sup>296</sup> Letters to New Straits Times, 16 February 2001.

Hospital now known as the University Malaya Medical Centre (UMMC) after corporatisation has introduced limited private practice at its hospital in June 2000 where staff with four years experience was allowed to tend to private patients and they were allowed to keep the consultation fees charged based on the MMA fee schedule. Private specialist clinics were opened on weekdays from 5 pm – 8 pm and Saturdays from 9 am – 1 pm. UMMC has 1,200 public beds and 65 private beds. This was a form of incentive to retain the senior specialists in the corporatised sector. MOH studied the possibility of allowing doctors in the public service to do limited private practice in the government hospitals in 2001, after the three corporatised university hospitals implemented the system but no decision has been made until now.

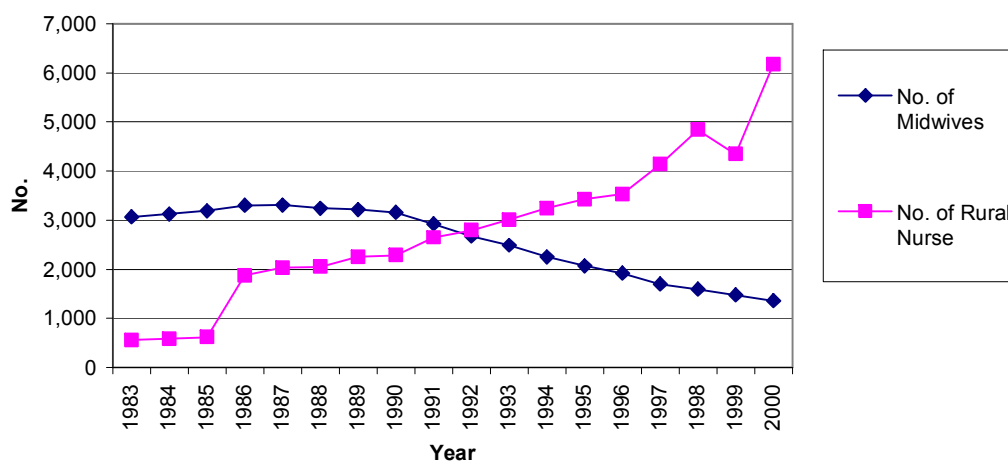
On the whole, the improvements that MOH has made towards the distribution of health manpower were the distribution of auxiliary and paramedics health personnel, namely, the nurses, rural nurses and midwives. From Table 6.27, there were altogether 31,129 nurses in the country which was one nurse to every 747 population. This was an achievement. In the public sector alone, the population per nurse ratio was one to every 1,000 population and rural nurse/midwife was one to every 3,099 population compared to the private sector of one nurse to every 2,955 population and one rural nurse/midwife to every 114,050 population.

By 1980, a total number of 3,000 nurses were trained with an additional three new nurses' training schools. During the 4MP, the annual intake was 600 nurses, 600 assistant nurses, 180 rural nurses and retraining for 250 midwives. By the 6MP, the annual intake of nurses rose from 705 in 1990 to 2,280 in 2000 and for rural nurses from 240 to 2,140 for

the same period. See Table 6.9. This increase was to accommodate the reforms to the rural health service from three tiers to two tiers with improved coverage of health services to the rural population.

With this conversion the health manpower required for a health centre was a medical officer, a dental officer, a public health sister, rural/community nurses, staff nurses and other paramedics, instead of a doctor, a dentist and a few nurses and assistant nurses in the former main health centre. Each rural clinic would be served by two community nurses. Midwives from the previous system were retrained and upgraded to rural/community nurses and were redeployed to these rural clinics to provide better

**Chart 6.11 : Total Number of MOH Midwives and Rural Nurses 1983-2000**



coverage and quality of care. In this respect the government was equitable as well as efficient in the distribution of these support health personnel and the rural population benefited through this conversion and upgrading of personnel. However, although the conversion began in 1973, it was not until 1992, that the number of rural/community nurses were sufficient to replace the midwives in this new structure. This meant that the

government took some time to gradually replace the midwives with rural nurses. See Chart 6.11 above.

In terms of budget, the MOH allocation for personnel emolument increased from RM112,681,021 in 1970 to RM2,033,456,100 in 2000, an increase of 17 times over the period of 30 years. See Table 6.33. Personnel budget took up more than 65 percent of the total MOH operating budget from 1970-1992 and went below 60 percent after 1992. From the trend, the allocation for personnel emolument had dwindled from 70.1 percent in 1970 to 48.3 percent of the total MOH operating budget in 2000.

Chart 6.12 above shows an upward trend in terms of health manpower allocation but as a percentage to total operating budget, the proportion was decreasing. The expenditure for personnel had been consistently above the 92 percent of the allocation given. Out of this budget and expenditure, the largest proportion went to the medical programme which constituted 60 percent of the total MOH personnel whereas public health constituted 30-34 percent of the workforce emolument. See Table 6.34. Therefore, between the two programmes, the public health programme, which was responsible for the provision of primary health care, took up only one-third of the health manpower expenditure but reached out to more of the population through its extensive network of health centres and rural health clinics including the flying-doctor teams and travelling dispensaries. In this respect, the public health programme was more cost-efficient than the medical programme.

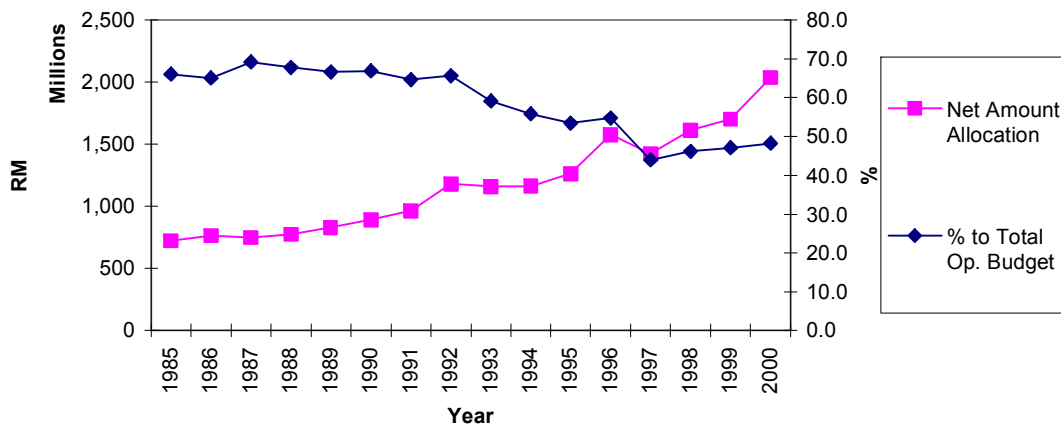


**Table 6.33: MOH Personnel Allocation and Expenditure 1970-2000**

Year	Original Estimate	Supplementary	Virement (+)	Virement (-)	Net Amount Allocation	% to Total Op. Budget	Actual Expenditure	% of Exp/ Allocation	Total MOH Op. Budget	Total MOH Op. Expenditure
1970	112,681,021				112,681,021					
1971	127,090,565	15,000,000			142,090,565	70.1	154,420,515	108.7	202,824,191	209,096,047
1972	146,868,044	24,663,015	0	0	171,531,059	71.6	170,531,059	99.4	239,412,590	233,773,334
1973	174,626,360	3,257,343	0	0	177,883,703	70.1	179,502,602	100.9	253,733,555	254,081,119
1974	203,609,000	17,500,000	1,500,000	1,500,000	221,109,000	68.9	217,666,876	98.4	320,800,272	313,475,158
1975	225,990,700	0	700,000	700,000	225,990,700	67.7	236,073,917	104.5	334,000,000	354,719,253
1976	240,326,940	0	0	0	240,326,940	65.2	252,971,635	105.3	368,832,000	378,837,050
1977	271,182,000	90,000,000	5,300,000	5,300,000	361,182,000	66.9	378,236,457	104.7	540,178,100	521,809,690
1978										
1979	426,785,400		0	0	426,785,400	65.9	392,665,603	92.0	647,742,100	593,709,080
1980										
1981	584,159,250	0	0	0	584,159,250	65.5	553,890,654	94.8	891,918,100	838,980,500
1982										
1983	612,126,000	0	0	2,600,000	609,526,000	71.2	605,832,885	99.4	856,126,000	831,900,721
1984										
1985	722,000,000	0	0	0	722,000,000	66.0	675,535,510	93.6	1,094,117,000	999,652,953
1986	763,194,400	0	0	0	763,194,400	65.0	719,306,829	94.2	1,174,345,000	1,080,311,356
1987	750,652,200	0	0	3,251,000	747,401,200	69.1	728,300,395	97.4	1,081,695,700	1,054,498,042
1988	782,820,600	0	0	8,584,000	774,236,600	67.8	764,664,461	98.8	1,142,741,900	1,119,581,455
1989	830,303,600	0	480,000	0	830,783,600	66.6	819,094,004	98.6	1,248,230,600	1,223,122,796
1990	847,839,200	38,200,000	6,360,400	0	892,399,600	66.8	879,042,804	98.5	1,335,325,500	1,316,063,428
1991	945,892,800	21,808,400	0	4,135,000	963,566,200	64.6	938,885,072	97.4	1,492,222,400	1,462,983,976
1992	1,078,503,200	99,000,000	2,702,622	0	1,180,205,822	65.6	1,180,880,442	100.1	1,798,404,800	1,786,310,544
1993	1,168,618,000	5,417,300	0	13,390,077	1,187,425,377	59.1	1,171,333,149	100.9	1,964,507,100	1,981,024,422
1994	1,162,683,700	0	0	0	1,162,683,700	55.8	1,249,517,625	107.5	2,085,066,900	2,152,535,555
1995	1,176,813,900	87,000,000	0	0	1,263,813,900	53.4	1,296,382,597	102.6	2,365,765,000	2,368,928,304
1996	1,324,994,000	261,769,000	0	10,531,600	1,576,231,400	54.7	1,730,995,375	109.8	2,880,134,000	2,995,014,987
1997	1,455,058,400	0	0	33,510,817	1,421,547,583	43.9	1,549,053,248	109.0	3,236,047,600	3,254,621,240
1998	1,524,504,300	0	88,218,800	0	1,612,723,100	46.1	1,647,624,534	102.2	3,494,774,000	3,313,870,817
1999	1,700,715,500	0	0	0	1,700,715,500	47.1	1,776,973,859	104.5	3,612,258,200	3,610,832,055
2000	1,834,729,500	190,699,700	8,026,900	0	2,033,456,100	48.3	2,063,906,797	101.5	4,213,862,000	4,131,019,270

Source: Public Accounts, Accountant General, Malaysia for the respective years.

**Chart 6.12 : MOH Personnel Allocation and Percentage to Total Operating Budget 1985-2000**



Together the two programmes employed 90-94 percent of the total MOH personnel. The average MOH costs per health personnel per year had also increased tremendously from RM8,648.90 from 1983 to RM21,438.50 in 2000 an increase of 2.5 times. See Table

6.35. Health care cost for manpower was rising exponentially and this alone could make the healthcare cost explode as the health sector was very much dependent on its manpower. Chart 6.13 shows the steeper gradient for the increase in cost of manpower compared to the increase in the total number of manpower. The issue of allocative efficiency in the deployment of health manpower has to be seriously considered to ensure efficient health manpower for the health sector.

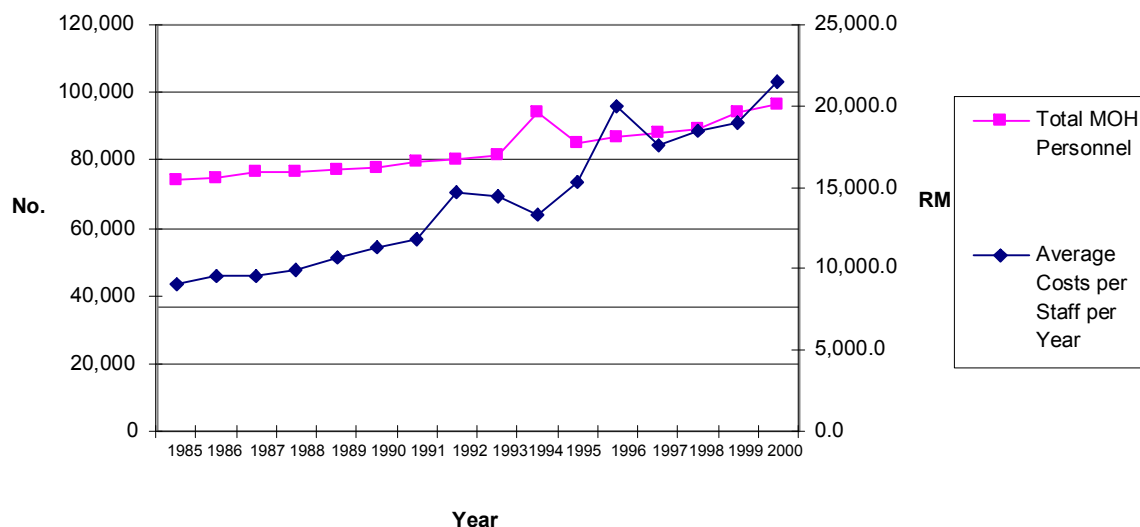
**Table 6.34: Percentage of Personnel by Programme to the Total MOH Personnel 1970-2000**

Year	General Adminis.	% to Total	Public Health	% to Total	Medical	% to Total	Support & Technical	% to Total	Dental	% to Total	Training	% to Total	Pharm.	% to Total	Research	% to Total	Planning	% to Total	Eng.	% to Total	Total
1970	933	2.4	13,339	33.8	19,767	50.1	3,347	8.5													39,451
1971	1,054	2.5	15,100	35.3	22,432	52.5	4,049	9.5													42,735
1972	1,190	2.6	15,979	35.4	23,817	52.8	4,050	9.0													45,136
1973	1,253	2.5	17,338	34.5	27,537	54.7	4,190	8.3													50,318
1974	1,307	2.5	15,998	30.2	29,590	55.9			2,348	4.4	2,664	5.0	456	0.9	448	0.8					52,911
1975	1,300	2.4	17,092	31.4	31,264	57.4			2,676	4.9	1,042	1.9	461	0.8	492	0.9	53	0.1			54,480
1976	1,397	2.4	18,251	31.0	34,132	57.9			2,778	4.7	1,085	1.8	650	1.1	466	0.8	53	0.1			58,912
1977	1,549	2.4	18,880	29.7	37,078	58.3			3,096	4.9	1,370	2.2	986	1.6	482	0.8	62	0.1			63,603
1978	1,288	1.9	19,051	28.2	39,740	58.8			3,661	5.4	2,034	3.0	1,166	1.7	492	0.7	67	0.1			67,599
1979	1,100		20,081						3,944												
1980	1,348		20,284																		
1981	1,409		20,942						4,337		2,488										
1982																					
1983																					
1984																					
1985	1,906	2.3	22,633	26.9	50,365	59.8			4,636	5.5	2,470	2.9	1,449	1.7	560	0.7	77	0.1	38	0.0	84,234
1986	2,458	2.8	23,320	26.7	52,055	59.6			4,805	5.5	2,483	2.8	1,483	1.7	583	0.7	74	0.1	42	0.0	87,403
1987			23,015	27.1	52,429	61.7			4,805	5.7	2,487	2.9	1,494	1.8	588	0.7	72	0.1	44	0.1	85,034
1988	2,490	2.9	22,941	26.3	52,397	60.0			4,820	5.5	2,525	2.9	1,358	1.6	589	0.7	67	0.1	43	0.0	87,330
1989	2,487	2.8	23,253	26.3	52,982	60.0			4,947	5.6	2,462	2.8	1,365	1.5	589	0.7	66	0.1	43	0.0	88,294
1990	2,484	2.8	23,615	26.3	54,121	60.2			5,006	5.6	2,466	2.7	1,357	1.5	587	0.7	67	0.1	43	0.0	89,846
1991	2,683	2.9	23,840	26.0	55,196	60.3			5,173	5.6	2,469	2.7	1,374	1.5	591	0.6	76	0.1	56	0.1	91,558
1992	2,938	3.2	24,214	26.1	55,968	60.3			5,230	5.6	2,282	2.5	1,391	1.5	591	0.6	76	0.1	56	0.1	92,846
1993	2,939	3.1	24,565	26.2	56,719	60.5			5,302	5.7	2,075	2.2	1,377	1.5	595	0.6	76	0.1	56	0.1	93,804
1994	5,180	5.5	29,552	31.2	57,822	61.1	2,056	2.2													94,708
1995	5,176	5.3	30,120	31.1	59,382	61.3	2,045	2.1													96,821
1996	5,530	5.6	31,217	31.5	60,692	61.3	1,511	1.5													99,048
1997	5,420	5.3	33,140	32.6	61,619	60.5	1,501	1.5													101,778
1998	5,374	5.2	35,593	34.3	61,245	59.0	1,502	1.4													103,812
1999	5,394	4.9	37,776	34.5	64,590	59.0	1,541	1.4													109,400
2000	5,394	4.9	38,061	34.4	65,520	59.2	1,536	1.4													110,610

Source: Annual Budget, Ministry of Finance, Malaysia for the respective years.

Note: The missing data show that the actual numbers were not recorded in the reports and therefore the percentages could not be computed.

**Chart 6.13 : Average MOH Costs Per Manpower Per Year 1985-2000**



**Table 6.35: Average MOH Costs Per Personnel Per Year 1984-2000**

Year	MOH Staff Actual Expenditure	Total MOH Personnel	Average Costs per Staff per Year
1983	605,832,885	70,047	8,648.9
1984		70,540	
1985	675,535,510	74,243	9,099.0
1986	719,306,829	74,990	9,592.0
1987	728,300,395	76,665	9,499.8
1988	764,664,461	76,791	9,957.7
1989	819,094,004	77,155	10,616.2
1990	879,042,804	77,994	11,270.6
1991	938,885,072	79,304	11,839.1
1992	1,180,880,442	80,502	14,669.0
1993	1,171,333,149	81,344	14,399.7
1994	1,249,517,625	94,040	13,287.1
1995	1,296,382,597	84,839	15,280.5
1996	1,730,995,375	86,665	19,973.4
1997	1,549,053,248	88,325	17,538.1
1998	1,647,624,534	89,398	18,430.2
1999	1,776,973,859	93,814	18,941.5
2000	2,063,906,797	96,271	21,438.5

Source: Computed from data in the Ministry of Health Annual Report for the respective years.

### ***3.3 Utilisation***

Utilisation of a certain healthcare services will generally indicate the demand of the population towards that particular service provided. The under-utilisation or over-utilisation of a particular service will also show whether the resources invested really gave the optimum output for the investment. These are basically issues of efficiency and any organization, whether the government or a particular hospital, would want to consider the benefits gained. For the provider it would mean the most appropriate and least cost investment for maximum gain. One of the proofs of this investment would be the utilisation rates.

From the figures given in Table 6.36, total outpatient attendances at MOH hospitals had increased from 10.5 million in 1981 to 13.8 million in 1995 and later went on a downward trend to 11.8 million in 2000 an mere increase of 12.3 percent from 1981 but a decrease of 17 percent from 1995. On the other hand outpatient attendances at public health facilities increased from 8.2 million in 1981 to 17.2 million in 2000 which was an increase of 109.4 percent in 20 years. Chart 6.14 shows that MOH hospitals OPD attendance is on a downward trend whereas Chart 6.15 shows that outpatient attendance in public health facilities is on the upward trend especially from 1995 onwards. This increase was due to expanded network of the rural health services and outpatient services which had enabled the population especially the rural population access to outpatient care in these public health facilities as shown in the increase of public health facilities throughout the country. The rural health service reforms also made the services more accessible to the

public. This clearly showed that there was a very large improvement in terms of the utilisation of public health facilities rather than hospitals for overall outpatient visits.

**Table 6.36: Total Outpatient Attendance to MOH Hospitals and Public Health Facilities and Total Admission to MOH Hospitals 1970-2000**

Year	Hospitals OPD	% to Total	Specialists OPD	% to Total	A & E	% to Total	Satellite Clinic	% to Total	Total Attendance for MOH Hosp.	% to Total Outpatient	Public Health Facilities	% to Total Outpatient	Total Outpatient
1970									5,765,852				
1975													
1980													
1981									10,494,816	56.1	8,197,168	43.9	18,691,984
1982									10,831,875	56.1	8,472,802	43.9	19,304,677
1983									10,833,189	56.8	8,231,691	43.2	19,064,880
1984									11,035,953	57.8	8,046,152	42.2	19,082,105
1985									11,521,906	56.2	8,971,700	43.8	20,493,606
1986	6,318,129	52.1	2,556,231	21.1	1,488,576	12.3	1,769,035	14.6	12,131,971	57.4	9,016,370	42.6	21,148,341
1987	6,519,677	51.4	2,678,893	21.1	1,610,607	12.7	1,868,497	14.7	12,677,674	56.7	9,675,465	43.3	22,353,139
1988	6,830,085	51.7	2,766,166	20.9	1,673,605	12.7	1,953,684	14.8	13,223,540	57.6	9,749,367	42.4	22,972,907
1989	6,963,369	52.4	2,671,158	20.1	1,723,288	13.0	1,933,956	14.6	13,291,771	56.6	10,205,334	43.4	23,497,105
1990	7,011,475	52.5	2,681,268	20.1	1,775,784	13.3	1,898,554	14.2	13,367,081	56.1	10,439,972	43.9	23,807,053
1991	6,835,717	51.2	2,682,583	20.1	1,838,190	13.8	1,985,853	14.9	13,342,343	56.3	10,353,843	43.7	23,696,186
1992									13,351,903	56.5	10,286,973	43.5	23,638,876
1993	6,850,000	50.4	2,666,000	19.6	1,991,000	14.6	2,092,000	15.4	13,599,806	56.8	10,346,829	43.2	23,946,635
1994	6,966,264	50.6	2,625,766	19.1	2,105,821	15.3	2,080,645	15.1	13,778,496	56.9	10,430,513	43.1	24,209,009
1995	7,062,020	51.0	1,858,216	13.4	2,255,940	16.3	1,858,216	13.4	13,834,812	57.0	10,454,892	43.0	24,289,704
1996	6,826,013	50.1	1,576,026	11.6	2,388,288	17.5	1,576,026	11.6	13,627,584	53.9	11,648,382	46.1	25,275,966
1997	8,049,959	59.5	2,954,470	21.8	2,532,570	18.7			13,537,099	52.3	12,322,848	47.7	25,859,847
1998	7,403,124	55.7	3,196,133	24.1	2,685,668	20.2			13,284,925	49.1	13,753,941	50.9	27,038,866
1999	6,766,635	51.8	3,400,843	26.0	2,901,131	22.2			13,068,609	46.3	15,163,554	53.7	28,232,163
2000	5,302,583	45.1	3,405,388	29.0	3,042,980	25.9			11,750,951	40.6	17,168,668	59.4	28,919,619

Note : From 1995-2000 the health facility includes all health centres and polyclinics.

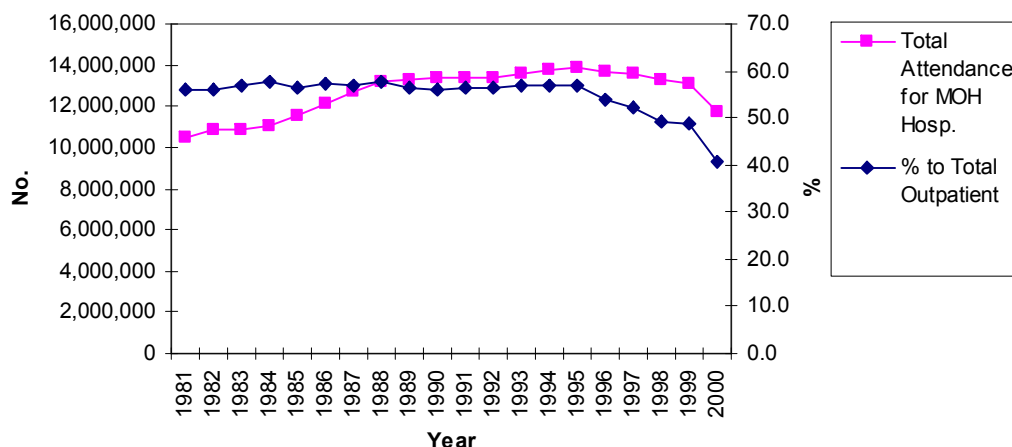
The ratio for this period is the ratio of urban and rural health facilities to total population.

From 1997 all hospital OPDs are transferred to the Public Health Programmes

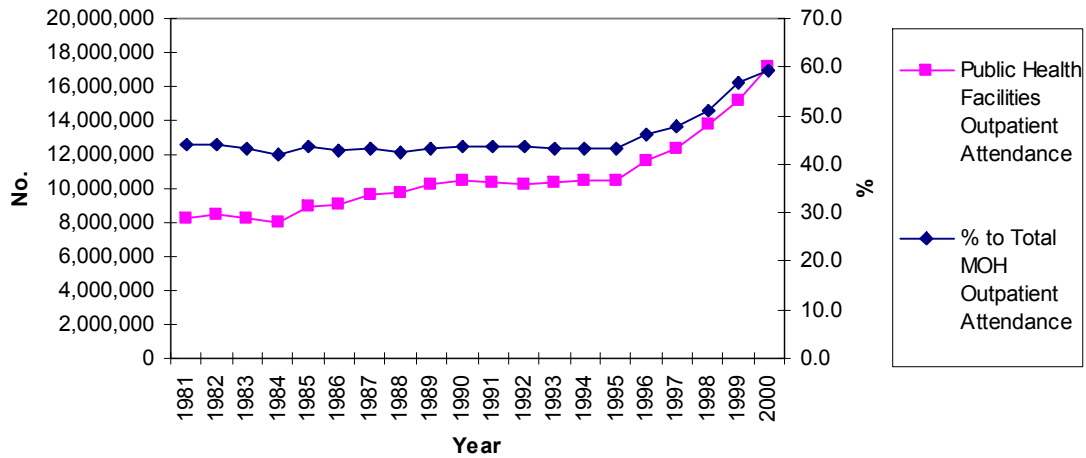
Source: Ministry of Health Malaysia Annual Report for the respective years and computed data from this source.

Note: The missing data show that the actual numbers were not recorded in the reports and therefore the percentages could not be computed.

**Chart 6.14 : Total Outpatient Attendance for MOH Hospitals and Percentage to Total MOH Outpatient Attendance 1970-2000**



**Chart 6.15 : Public Health Facilities Outpatient Attendance and Percentage to Total MOH Outpatient Attendance 1981-2000**

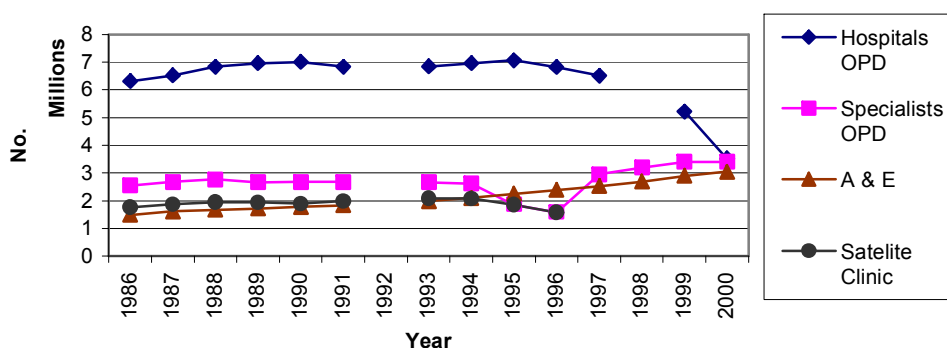


However, looking at the breakdown of the types of hospital outpatient attendances, although both the hospital general OPD and satellite clinic attendance have declined but for specialists outpatient and accident & emergency department (A&E) have both recorded an increase in the number of outpatient attendance from 1986 to 2000. Chart 6.16 shows that although general hospital outpatient attendance has decreased significantly but the visits to the specialist outpatient and A&E have increased quite substantially and were showing a steady upward trend. The highest increase was the A&E department with an increase of 104.4 followed by the specialist outpatient with a 33.2 percent increase with each taking up 25.9 percent and 29.0 percent of the total MOH outpatient attendance respectively.

On the other hand the total proportion for general OPD and satellite clinic combined was reduced from 66.7 percent 52.1 percent in 1986 to only 45.1 percent in 2000. The reduction was envisaged with the increase of the number of health clinics nearer to the homes of the patients. Furthermore, the clinics were operated by a better mix of personnel and the availability of better diagnostic equipment made them more attractive than having

to travel further to the hospital and satellite clinics in town. Having more attendances in the public health facilities may be more cost efficient but this could be offset by the increase in the more expensive specialist and A&E visits as shown in Table 6.36 above. The increase number of population in the urban areas (as hospital OPD and satellite clinics were located in the towns) also had an effect as most urban dwellers preferred to visit private general practitioners to avoid long waiting time and congestion at hospital OPD.

**Chart 6.16 : MOH Hospital Outpatient Attendance by Category  
1986-2000**



Although, it was not possible to obtain data on the number of outpatients treated in the private clinics for the whole country, Table 6.37 shows that the total number of outpatient attendance at private hospitals had increased 191.4 percent from 1985 to 1996 not taking into account private general practitioners who had their own clinics in the towns and cities. The increase for some states was as high as 25 times for Kelantan from 1990-1996, Johor 10.6 times, Pahang 9.7 times and Malacca 6.7 times for the same period from 1985 to 1996. Outpatient attendances in private hospitals had increased tremendously for all states.

In terms of total admissions to MOH hospitals the numbers increased from 569,066 in 1970 to 1,612,691 in 2000, which was an increase of 183.4 percent or 2.8 times in 30

years. Comparing this to the total number of admissions to private hospitals, private admissions increased by 116.2 percent, an increase of 178,354 admissions<sup>297</sup> from 1985-1996 compared to 42.0 percent with an addition of 448,956 admissions in MOH hospitals for the same period. See Table 6.38. Notwithstanding the fact the private beds only represented about 13.8 percent of the country's total beds in 1996 as shown in Table 6.39, there were large increases in the utilisation of private inpatient services. The proportion of private beds had increased from 3.2 percent of the total hospital beds in the country in 1984 to 17.8 percent in 2000 whereas for the same period MOH beds had dwindled from 96.8 percent to 82.2 percent. At the same time, the rate of admissions to private hospitals was growing at a much faster rate than public hospitals admissions on the whole.

**Table 6.37: Total Number of Outpatient Attendances at Private Hospitals by State 1985-1996**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1985	0	43,224	248,990	111,273	188,290	232,880	9,832	42,847	52,917	17,123	5,684	0	20,165	N.A.	973,225
1990	0	148,104	361,892	122,835	523,894	589,747	43,656	106,787	152,837	52,423	13,367	408	15,424	N.A.	2,131,374
1995	0	203,447	620,497	216,719	510,916	462,660	42,804	255,871	488,670	146,047	12,365	6,136	67,879	5,314	3,039,325
1996	0	271,337	661,816	236,000	N.A.	523,320	46,505	285,391	560,605	165,551	23,397	10,348	50,051	N.A.	2,836,321
% ch.	0	527.7	165.8	112.1	171.3	124.7	373.0	566.1	959.4	866.8	311.6	2436.3	148.2		191.4

Note : 1990, 1995 and 1996 figures are based on 163, 170 and 176 hospitals which have submitted their reports respectively.

% ch. - percentage of increase/decrease from 1985-2000.

Source: Ministry of Health Malaysia Annual Report for the respective years.

**Table 6.38: Total Number of Admissions to Private Hospitals and Maternity/Nursing Homes by State 1985-1996**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1985	0	2,197	32,685	24,877	28,783	40,109	3,986	5,624	10,845	933	445	0	3,051	N.A.	153,535
1990	0	7,137	49,976	30,959	44,089	48,644	4,165	10,953	18,156	2,969	323	34	3,864	5,364	226,633
1995	0	12,250	78,658	38,861	60,931	78,852	7,294	21,967	43,170	5,886	423	365	6,408	8,217	363,282
1996	0	15,848	81,004	42,708	N.A.		8,157	25,460	51,119	6,887	610	684	3,722	12,029	331,889
% ch.	0	621.3	147.8	71.7		108.6	104.6	352.7	371.4	638.2	37.1	1912	22.0	124.3	116.2

Note : 1990, 1995 and 1996 figures are based on 163, 170 and 176 hospitals which have submitted their reports respectively.

% ch. - percentage of increase/decrease from 1985-2000.

Source: Ministry of Health Malaysia Annual Report for the respective years.

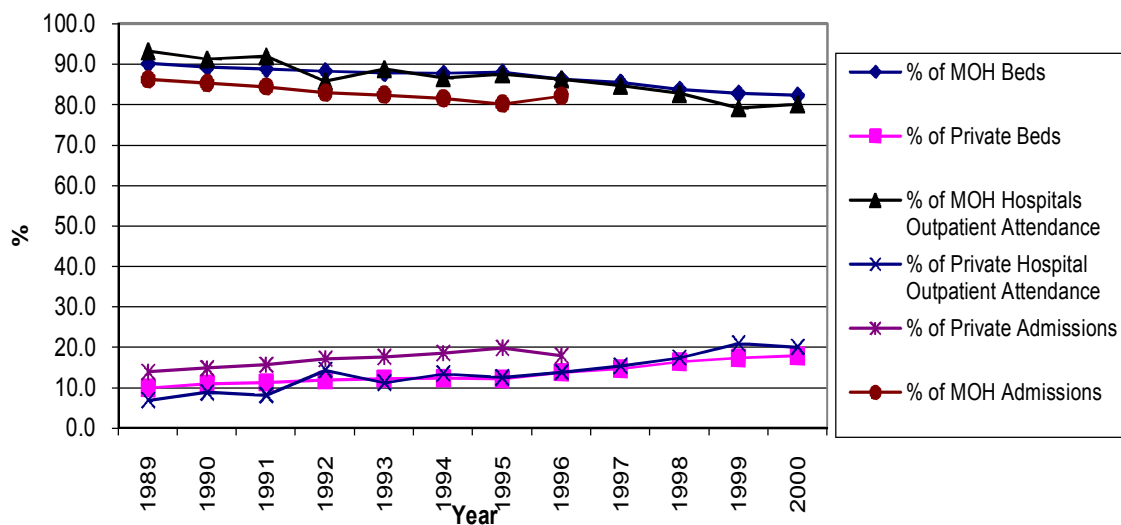
<sup>297</sup> This figure only takes into consideration those private hospitals which have submitted their reports to the Ministry of Health and therefore they do not represent all private hospitals for the period.



Year	MOH Beds	%	Private Beds	%	Total Beds
1984	34,912	96.8	1,171	3.2	36,083
1985	32,495	93.7	2,200	6.3	34,695
1986	32,960	92.5	2,658	7.5	35,618
1987	33,161	90.5	3,465	9.5	36,626
1988	33,067	90.5	3,465	9.5	36,532
1989	33,385	90.1	3,666	9.9	37,051
1990	33,400	89.1	4,073	10.9	37,473
1991	33,476	88.8	4,225	11.2	37,701
1992	33,261	88.2	4,439	11.8	37,700
1993	33,183	87.8	4,595	12.2	37,778
1994	33,246	87.7	4,675	12.3	37,921
1995	35,588	87.9	4,898	12.1	40,486
1996	33,818	86.2	5,401	13.8	39,219
1997	33,918	85.4	5,799	14.6	39,717
1998	33,338	83.7	6,492	16.3	39,830
1999	34,455	82.7	7,192	17.3	41,647
2000	34,579	82.2	7,471	17.8	42,050

Source: Ministry of Health Annual Reports for the respective years.

**Chart 6.17 : Percentage of Total MOH and Private Hospital Beds, Admissions and Outpatient Attendance 1989-2000**



**Table 6.40: Number of Private Health Facilities, Admissions and Outpatient Attendance 1984-2000**

Year	No. of Private Hospitals	% of Change	No. of Private Beds	% of Change	No. of Private Admissions	% of Change	No. of Outpatient Attendance	% of Change
1984	50		1,171					
1985	69	27.5	2,200	46.8	153,535		973,225	
1986	100	31.0	2,658	17.2	139,288	-10.2	1,289,407	24.5
1987	115	13.0	3,465	23.3	163,735	14.9	1,169,812	-10.2
1988	115	0.0	3,465	0.0	187,904	12.9	2,223,446	47.4
1989	133	13.5	3,666	5.5	201,210	6.6	1,714,930	-29.7
1990	138	3.6	4,073	10.0	226,633	11.2	2,131,374	19.5
1991	152	9.2	4,225	3.6	244,762	7.4	1,969,159	-8.2
1992	162	6.2	4,439	4.8	276,661	11.5	2,175,623	9.5
1993	168	3.6	4,595	3.4	298,941	7.5	2,451,172	11.2
1994	174	3.4	4,675	1.7	318,293	6.1	2,785,753	12.0
1995	174	0.0	4,898	4.6	363,282	12.4	3,039,325	8.3
1996	199	12.6	5,401	9.3	331,889	-9.5	2,836,321	-7.2
1997	180	-10.6	5,799	6.9				
1998	184	2.2	6,492	10.7				
1999	197	6.6	7,192	9.7				
2000	203	3.0	7,471	3.7				

Source: Ministry of Health Annual Report for the respective years.

Note: The missing data show that the actual numbers were not recorded in the reports and the percentages could not be computed.

However, the number of outpatient attendance to the private hospitals fluctuated from year to year especially during the economic slowdown as evidenced in 1987, 1989, 1991 and 1996 but for private admissions the fluctuation was not as bad as outpatient attendance. See Table 6.40. Private outpatient attendances had risen from 6.8 percent in 1989 to 20 percent in 2000 of the total outpatient attendances in both MOH and private hospitals. See Table 6.41. There is no doubt that private health care is on the rise in Malaysia. Chart 6.17 shows that the percentage of total MOH beds, admissions and also outpatient attendances were on a gradual downward trend whereas the private hospital beds, admission and outpatient attendance were rising. The private health care is playing an increasing role in providing health care services to the population. In a way, the provision of private health care has lightened the burden of the government of providing both ambulatory care and hospitalisation for those who can afford, thus reducing the strain on government budget.

<b>Table 6.41: Total Outpatient Attendance in MOH and Private Hospitals 1989-2000</b>					
Year	Total Outpatient Attendance in MOH Hospitals	% to Total	Total Outpatient Attendance In Private Hospitals	% to Total	Total Outpatient Attendance MOH and Private Hospitals
1989	13,291,771	93.2	973,225	6.8	14,264,996
1990	13,367,081	91.2	1,289,407	8.8	14,656,488
1991	13,342,343	91.9	1,169,812	8.1	14,512,155
1992	13,351,903	85.7	2,223,446	14.3	15,575,349
1993	13,599,806	88.8	1,714,930	11.2	15,314,736
1994	13,778,496	86.6	2,131,374	13.4	15,909,870
1995	13,834,812	87.5	1,969,159	12.5	15,803,971
1996	13,627,584	86.2	2,175,623	13.8	15,803,207
1997	13,537,099	84.7	2,451,172	15.3	15,988,271
1998	13,284,925	82.7	2,785,753	17.3	16,070,678
1999	11,514,329	79.1	3,039,325	20.9	14,553,654
2000	11,369,669	80.0	2,836,321	20.0	14,205,990

*Source: Ministry of Health Annual Report for the respective years*

Under the Fees (Medical) Order 1982 of the Fees Act 1951, the fee for outpatient treatment in MOH hospitals and clinics was set at RM1 while treatment at the rural facilities was free. A consultation with a specialist would cost RM5 while charges varied from the lowest at RM3 for third class ward to RM80 for a single air-conditioned room. The NHMS II showed that private clinics were reported to have charged between RM11-RM20 but most of them paid it out of their own pocket. Furthermore an average out-of-pocket expenditure per admission in a government hospital for an average duration of six days was RM49.61 and RM1,736.21 for private admission for an average duration of five days<sup>298</sup> which was almost 35 times more. The Malaysian Medical Association (3<sup>rd</sup> Edition) fee schedule compiled in 1997 was only a guideline for its members, which was not compulsory for them to follow, therefore the private practitioners could charge according to market rates. For difficult procedures, for example liver transplant in a private hospital

<sup>298</sup> Report of the Second National Health and Morbidity Survey Conference 20-22 November 1997, Hospital Kuala Lumpur, pg. 41-42.

could cost up to RM350,000 whereas the same transplant done in public hospital would cost not more than RM3,000 or RM500 for third class patients. The high cost can be catastrophic and may reduce an average patient into poverty. This inequality has to be addressed by the government. The Private Healthcare Facilities and Services Act enacted in 1998 gave the government more powers to rationalise medical charges in the private sector to more affordable levels but there was still a limit to what the government could do. Some form of competition in the health sector could be helpful to control exorbitant price increases in the private sector.

Besides the above inequity, within the public health system itself, there were differential pricing between a citizen and a non-citizen. For foreigners the charges were higher, there was another increase in 2003 since the last increase in 1994. For an outpatient treatment, a foreigner would have to pay RM15 for consultation and RM115 for a first class ward (2 beds) compared to RM1 or free, and RM40 for Malaysians respectively. Maternity charges for a foreigner were RM500 compared to Malaysian between RM10-RM100. The reason given by the government for the price hike was to discourage them from overloading the highly subsidised public health care, thus depriving the locals of proper care. Most of the foreigners and their families have come to Malaysia as labourers due to the high economic growth in the country. Some has come in legally with proper work permits but there were some who entered without a working pass. Initially, in 1991 the government granted temporary amnesty to them pending normalization of their status, however beginning this year no more amnesty was given and they had to return and re-enter with proper documents. Seventh Malaysia Plan suggested that 7.5 percent of the Malaysian's population were non-citizens.

Private health care may be a barrier to accessibility for the poor through its costly services. Pricing is also an issue that influences the demand and the utilisation of both the public and private health care. At this point, government health care services are delivered for free or at a nominal cost to its citizen but at a different rate for non-citizens. See Table 6.42 and 6.43 for ward charges and public hospital rates. This in it self is another form of inequality between the citizens and the non-citizens. Hospitalisation and surgeries cost more but comparing this to the private sector it is still very much lower. See Table 6.44 comparing hospitalisation rates of public hospitals and some private hospitals in Malaysia. Within the public hospitals, there are different charges for different wards according to class. This differential pricing may be an issue of differential treatment according to class which may seem to be unfair but having the distinction based on ability to pay could be equitable if the poor are appropriately subsidised.

**Table 6.42 : Government Hospitals Ward Charges and Deposits**

<b>Class</b>	<b>1A</b> 1 person per room	<b>1C</b> 2 persons per room	<b>1D</b> 3 persons per room	<b>2</b>	<b>3</b>
<b>Ward Charges Per Day</b>					
For Citizens	80	60	40	30	3
For Non Citizens	160	115	80	60	40
For Government Servants	10	8	6	3	Free
For Pensioners	5	4	3	1.5	Free
<b>Deposits For Citizens</b>					
Medical	700	700	700	200	20
Surgery and Orthopaedic	1,100	1,100	1,100	400	30
Maternity/O&G	800	800	800	300	13
<b>Deposits For Non Citizens</b>					
Medical	1,400	1,400	1,400	600	400
Surgery and Orthopaedic	2,200	2,200	2,200	1,000	800
Maternity/O&G	1,400	1,400	1,400	1,000	800
<b>Deposits For Govt. Servants</b>	100	80	60	30	No need
<b>Deposits For Pensioners</b>	50	40	30	15	No need

*Source: Ministry of Health Malaysia*

**Table 6.43 : Ward and Treatment Charges for Government Hospitals**

<b>Ward Charges</b>		<b>1976</b>	<b>1982</b>
First Class	<b>General and Maternity Wards</b>	Charges per person per day	Charges per person per day
	Single bed room (air cond)	50	80
	Single bedroom (non-circond)	40	60
	Two beds in a room	30	40
	Three or more beds in a room	25	30
Second Class	Second Class A	15	20
	Second Class B	10	
Third Class	Third Class A	3	3
	Third Class B (For those certified destitute only.)	Free	Free
<b>Inpatient Treatment</b>			
First Class	Include antenatal and postnatal charges but not including accouchment or delivery charges	RM10 for 1st day, RM1 5 for each subsequent days	10
		RM5 for first day, RM2 for each subsequent days not exceeding	5
Second Class	and charges for psychiatric treatment		
Third Class		Free	Free
Outpatient Services	<b>Consultation by A Specialist</b>	RM25 for the first visit, RM5 for subsequent visit but not exceeding RM200 for a course of treatment	Free for 1st visit, RM5 for every follow up referred by govt. MO RM30 for 1 <sup>st</sup> visit, RM5 for Every follow up referred by private MO.
	<b>Outpatient Services</b>	50 cents (not including dental treatment)	RM1

*Source: Ministry of Health, Malaysia*

In terms of utilisation of inpatient services in MOH hospitals, there were some improvements as shown in Table 6.45. The average length of stay was reduced from 8.2 days in 1984 to 4.7 days in 2000 and the turnover interval days had also improved from 4.5 days to 3.1 days for the same period. With such improvements, it was not a surprise that the bed occupancy rate had dropped from 65 percent to 60 percent only. Both the daily average number of admissions and the outpatient attendances had increased.

Comparing the MOH hospitals utilisation rates by states, Table 6.46 shows that in terms of daily average number of outpatients in MOH hospitals, the highest increase was Kelantan with an increase of 126.6 percent from 1985-1995, followed by Sarawak with an increase of 85.4 percent for the same period. The state with the lowest increase was Malacca with only 1 percent increase for the same period. The overall increase for the whole country was 48.4 percent. The daily average number of admissions to MOH hospitals by state also recorded an overall increase of 50 percent from 1985 –2000 with Kelantan having the highest increase with 166.7 percent, followed by Terengganu with 136.8 percent. The lowest was Penang with only 5.2 percent increase for the same period. See Table 6.47. These two tables show that population from poorer states like Kelantan and Terengganu had increased utilisation and access to outpatient and inpatient care and this was made possible through the open door policy in regard to general outpatient services and hospital admissions through a system of referrals.

**Table 6.44 : Comparative Rates Of Government And Private Hospitals (RM) - From The CAP Survey**

Items	Government			Penang		
	1st Class	2nd Class	3rd Class	Penang Adventist	Penang Medical	Specialist
				Hospital	Centre	Centre
Room and Board (per day)	30-80	20	3	15-75	32-150	32-120
Childbirth -Normal	300	150	10	300	400-750	400-500
Childbirth-Caesarian	800	400	100	1000	750-1,000	800-1,000
Minor Operation (eg. D&C)	150	80	15	260	150-300	150-250
Intermediate Operation (e.g. appendix)	800	400	50	600	750-900	500-900
Major Operation (eg.gall bladder)	1500	600	100	1200	1,800-2,700	1,500-2,500
Anaesthetic	Included in Operation charges			100 (1 hour)	30%-40% of surgical fees	30% of surgical fees
Operation theater	0	0	0	125 (1 hour)	30-50	12% of surgical fees
Intensive Care Unit(ICU) (Board charges)	0	0	0	90	33-50	120-300
In-hospital doctor's visits (per visit)	0	0	0	10-15	25-30	50-200 (per day)
X-ray (chest)	50	20	10	20	25	30
Blood test (complete blood account)	?	?	?	13	25	15
Pregnancy Test	20	10	5	18	15	15
Outpatient Service (consultant)						
First visit	30**	30**	30**	30	35-50	40
Subsequent visits	5	5	5	15-20	15-35	20

\*\* Inclusive of any investigation, referral from a private practitioner. Referral from Government medical officer - Free for visit, \$5 for every follow up.

Source : CAP Report Number 2, June 1983

Items	Kuala Lumpur				Petaling Jaya		
	Sentosa Medical Centre		Tung Shin Hospital		Assunta Hospital		
	1st Class	2nd Class	1st Class	2nd Class	1st Class	2nd Class	3rd Class
Room and Board (per day)	35-80	20-25	35-50 (excluding meal)	20 (excluding meal)	60-150	40	20
Childbirth -Normal	300	200	Not Given	Not Given	300	210	210
Childbirth-Caesarian	500	450 and above	Given	Given	700	490	490
Minor Operation (eg. D&C)	50-400	25-300	100-400	70-300	250	180	180
Intermediate Operation (e.g. appendix)	300-800	75-600	300-800	70-300	600	420	420
Major Operation (eg.gall bladder)	500-1,500	200-1,200	750-2,150	400-800	800	560	360
Anaesthetic	45-900	45-750	30%-40% of surgical fees		40% of surgical fees		
Operation theater	Not Given	Not Given	100 (1st hour)	100 (1st hour)	50% of surgical fees		
Intensive Care Unit(ICU) (Board charges)	Not Given	Not Given	45	45	90	50	30
In-hospital doctor's visits (per visit)	25-40 (per day)	10-20 (per day)	10-25	5-10	15	0	0
X-ray (chest)	25*	25*	40	40	25	20	20
Blood test (complete blood account)	?	?	30	24	Not Given	Not Given	Not Given
Pregnancy Test	10	10	6	6	15	10	10
Outpatient Service (consultant)							
First visit	25-75	25-75	25	25	35	15	0
Subsequent visits	15-50	15-50	25	25	35	15	0

\*Cost for a child - \$10

Source : CAP Report Number 2, June 1983



**Table 6.45: Utilisation of Inpatient Services in MOH Hospitals 1984-2000**

Year	MOH Bed Occupancy Rate	Average Length of Stay	Turnover Interval in Days	Daily Average No. of Admission	Daily Average No. of Outpatient
1984	65.0	8.2	4.5	2,744	31,293
1985	66.7	7.5	3.8	2,928	31,568
1986	66.5	6.8	3.4	3,076	40,986
1987	66.0	6.8	3.5	3,214	39,132
1988	65.2	6.4	3.4	3,353	44,524
1989	64.6	6.3	3.5	3,430	45,094
1990	65.0	6.1	3.3	3,582	45,007
1991	63.6	5.9	3.4	3,611	45,031
1992	62.2	5.7	3.4	3,661	44,953
1993	61.7	5.4	3.3	3,819	45,880
1994	60.6	5.2	3.4	3,828	46,608
1995	61.4	5.1	3.2	4,015	46,834
1996	61.5	5.0	3.1	4,147	45,837
1997	62.1	4.9	3.0	4,272	45,696
1998	61.2	4.8	3.1	4,229	45,621
1999	62.1	4.8	2.9	4,350	44,972
2000	60.0	4.7	3.1	4,393	

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

**Table 6.46: Daily Average Number of Outpatients in MOH Hospitals 1985-1995**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1985	423	2,008	3,217	4,000	1,835	3,728	1,625	1,215	2,861	1,635	1,029	937	3,608	2,667	31,568
1990	710	2,834	3,829	5,977	3,241	4,939	2,262	1,489	4,172	2,307	1,672	1,742	5,352	3,947	45,007
1995	739	3,522	3,889	6,097	3,381	4,672	1,827	1,227	4,402	2,417	1,632	2,123	5,732	4,945	46,834
% ch.	74.7	75.4	20.9	52.4	84.3	25.3	12.4	1.0	53.9	47.8	58.6	126.6	58.9	85.4	48.4

Note: % ch. - percentage of increase/decrease from 1985-1995.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

**Table 6.47: Daily Average Number of Admissions to MOH Hospitals By State 1985-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1985	40	217	229	386	164	309	163	96	367	138	95	96	286	292	2,928
1990	47	241	237	453	227	337	184	97	439	185	155	157	388	362	3,582
1995	53	324	272	450	296	428	186	109	452	228	173	205	446	382	4,015
2000	60	342	241	464	387	341	192	143	530	278	225	256	469	426	4,393
% ch.	50.0	57.6	5.2	20.2	136.0	10.4	17.8	49.0	44.4	101.4	136.8	166.7	64.0	45.9	50.0

Note: % ch. - percentage of increase/decrease from 1985-2000.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

The high daily average number of admission rates which rose by over 40 percent for most of the states as shown in Table 6.47, especially for Kelantan, Terengganu, Pahang and Selangor with increases above 100 percent, indicated that not only access by the population in these states to hospital services and modern medical care had improved but there was also growing demand for these services. However, in terms of bed occupancy rate in MOH hospitals, there seemed to be more decreases than increases in bed occupancy rate for most

of the states for the period from 1985 to 2000. See Table 6.14. Eight states out of 14 experienced a drop in the bed occupancy rate and the highest reduction was Sarawak from 74.2 percent to 51.8 percent and this reduction was due to the increase of four hospitals in the state the highest among the different states for the same period.

The state that experienced the highest improvement in terms of BOR was Malacca from 58.4 percent in 1985 to 71.9 percent in 2000 and the state did not have any increase in terms of number of hospitals and also a decrease in total hospital beds. The rest of the other states had less than 70 percent bed occupancy rate with seven states less than 60 percent and one state even less than 50 percent. The low BOR indicated an inefficient allocation of health resources. To date, Malaysia had not experienced any closure of hospitals due to low occupancy rate and one of the reasons could be such an action would cause a public outcry as the government was expected to increase the provision of health and medical care and not to decrease the existing number for equity reasons or just pure political pressure.

The mean length of stay (in days) for all states had improved and with the average of 3.5 days in 2000 compared to 7.5 days in 1985. See Table 6.48. The range was from the highest with 4.9 days for Penang and the lowest, 3.1 days for Negeri Sembilan. This was a good indicator for efficiency as well as equity as all states made improvements. The turnover interval of days for MOH hospitals as showed in Table 6.49 seemed more inconsistent compared to the mean length of stay. From 1985 to 2000, some states experienced a shorter turnover interval of days and some otherwise. The states that had a lower turnover interval of days like Johor (1.6 days), Terengganu (1.9 days) and Sabah (2.3

days) were those states that had low acute hospital beds per 1,000 population ratio. Both Johor and Sabah had only one acute bed for every 1,000 population in 2000 and Terengganu had a ratio of 1.2 acute beds for every 1,000 population. On the whole, all states had less than four turnover interval of days except for Selangor which had 5.1 turnover intervals of days. Again, on the whole, these tables showed improvements in productivity in the hospital inpatient services. However, putting the number of admissions and the utilisation indicators together against the expenditure for medical care, the productivity of medical care may have improved but the cost per patient was also increasing at a much faster rate as shown in Table 6.50. The high medical cost per patient for hospitals with less or reducing admission rates, low BORs and high manpower costs make the provision of hospital services rather inefficient.

**Table 6.48: Mean Length of Stay (in days) in MOH Hospitals by State 1985-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1985	5.9	5.6	6.8	5.6	4.6	6.3	6.2	5.8	4.8	6.2	5.2	7.2	5.2	6.2	7.5
1990	5.1	4.4	5.5	4.5	4.1	5.7	5.0	5.4	4.0	4.7	4.7	5.0	4.1	5.4	6.1
1995	4.6	3.8	4.6	3.7	3.4	5.2	4.0	4.4	3.6	3.7	3.8	4.0	4.0	4.0	5.1
2000	3.8	3.6	4.9	3.6	3.8	5.0	3.1	4.0	3.5	3.7	3.4	3.7	3.7	3.8	3.5
% ch.	-35.6	-35.7	-27.9	-35.7	-17.4	-20.6	-50.0	-31.0	-27.1	-40.3	-34.6	-48.6	-28.8	-38.7	-53.3

Note :Overall average length of stay in MOH Hospitals by State is inclusive of Special Medical Institutions

% ch. - percentage of increase/decrease from 1985-1995.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

**Table 6.49: Turnover Interval of Days for MOH Hospital Beds By State 1985-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1985	4.8	2.1	3.8	3.8	3.6	1.1	5.2	4.2	2.7	4.4	3.8	1.5	3.7	2.2	2.9
1990	3.5	3.0	4.0	3.7	2.2	0.9	4.2	4.0	2.4	3.4	2.6	3.0	2.4	1.5	3.3
1995	3.0	2.1	4.1	5.0	1.8	0.7	3.0	3.2	2.2	3.1	2.9	2.8	2.1	3.5	3.2
2000	3.1	2.4	3.4	3.9	5.1	2.4	3.4	2.6	1.6	2.3	1.9	2.6	2.3	3.6	3.2
% ch.	-35.4	14.3	-10.5	2.6	41.7	118.2	-34.6	-38.1	-40.7	-47.7	-50.0	73.3	-37.8	63.6	10.3

Note: % ch. - percentage of increase/decrease from 1985-1995.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

In view of the limitation of getting the unit cost per inpatient care and outpatient care separately, a very simple calculation was done for the public health programme and the medical programme. This may not be a good estimate due to the transferring of OPD

from the medical programme to the public health programme and the scope of public health programme extends beyond patient care alone. However, due to the limited data on unit costing, the expenditure for the medical and public health programme will be the inputs and the utilisation rate in terms of admission and patient attendances would be the outputs of the programmes. For a rough calculation of public health care cost per patient and medical care cost per patient (both outpatient and inpatient included) it was assumed that all public health facilities operation and services were budgeted through its respective programmes budget. In this case only a rough average cost was calculated as shown in Table 6.50. The average cost per public health care patient was RM23.33 in 1981 and RM50.01 in 2000 and the average cost per medical/hospital patient was RM45.19 in 1981 and RM163.89 in 2000. The average cost per patient care in hospitals was only 1.9 times more than the average cost per patient in public health facilities in 1981 but in 2000, the difference in the average cost increased to 3.2 times more.

**Table 6.50: Average Operating Cost Per Patient for Public Health and Medical/Hospital Patients 1981-2000**

Year	Public Health Operating Expenditure	Total Public Health Facilities Outpatient Att.	Operating Cost Per Public Health Patient	Medical Care Operating Expenditure	Total MOH Hospital Outpatient Att.	Total MOH Hospital Admission	Total MOH Outpatient & Admission Patient	Operating Cost Per Medical/ Hosp. Patient
1981	191,219,612	8,197,168	23.33	516,580,938	10,494,816	935,493	11,430,309	45.19
1982	189,967,450	8,472,802	22.42	552,543,948	10,831,875	990,448	11,822,323	46.74
1983	179,460,080	8,231,691	21.80	519,747,790	10,833,189	962,897	11,796,086	44.06
1984	206,449,518	8,046,152	25.66	569,457,324	11,035,953	1,001,467	12,037,420	47.31
1985	231,406,376	8,971,700	25.79	619,134,222	11,521,906	1,068,788	12,590,694	49.17
1986	247,669,730	9,016,370	27.47	674,041,222	12,131,971	1,122,618	13,254,589	50.85
1987	230,653,388	9,675,465	23.84	673,069,508	12,677,674	1,172,981	13,850,655	48.59
1988	247,324,000	9,749,367	25.37	714,542,700	13,223,540	1,227,021	14,450,561	49.45
1989	277,327,800	10,205,334	27.17	781,998,100	13,291,771	1,251,902	14,543,673	53.77
1990	295,365,000	10,439,972	28.29	829,432,000	13,367,081	1,307,609	14,674,690	56.52
1991	316,072,000	10,353,843	30.53	881,965,000	13,342,343	1,318,000	14,660,343	60.16
1992	378,953,798	10,286,973	36.84	1,132,603,931	13,351,903	1,339,800	14,691,703	77.09
1993	384,419,930	10,346,829	37.15	1,150,247,590	13,599,806	1,393,820	14,993,626	76.72
1994	539,768,743	10,430,513	51.75	1,241,899,788	13,778,496	1,397,185	15,175,681	81.83
1995	592,967,513	10,454,892	56.72	1,402,401,356	13,834,812	1,465,497	15,300,309	91.66
1996	704,856,451	11,648,382	60.51	1,756,380,423	13,627,584	1,517,744	15,145,328	115.97
1997	666,904,391	12,322,848	54.12	2,077,280,116	13,537,099	1,559,280	15,096,379	137.60
1998	658,511,015	13,753,941	47.88	1,783,317,133	13,284,925	1,543,657	14,828,582	120.26
1999	737,266,500	15,163,554	48.62	1,840,194,242	11,514,329	1,587,772	13,102,101	140.45
2000	858,668,005	17,168,668	50.01	2,127,705,110	11,369,669	1,612,691	12,982,360	163.89

Source: Public Accounts, Accountant General, Malaysia for the respective years and computed data from this source.

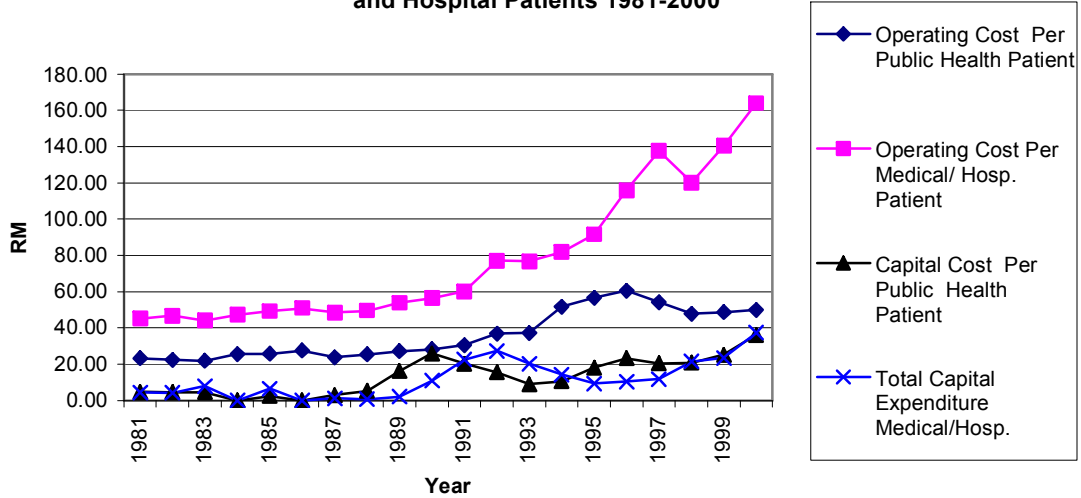
On the other hand, the average capital cost per patient for both hospitals and public health facilities was almost equal. As the capital expenditure was based on the five-year development plans and the budget was spread out throughout the five year period or more, an average was calculated from 1981 to 2000 and both the averages for public health and hospitals came up to RM14.81 and RM13.14 respectively. See Table 6.51. Although these figures from Table 6.50 and 6.51 may not accurately give the true costs per patient, based on the individual programmes, rough estimates were given to show an overall average cost per patient treated from each programme assuming all other related support costs were constant for both. Chart 6.18 shows that the operating cost per hospital patient had a steeper gradient and the increase was exponential compared to the operating cost per public health patient. As for capital cost per patient both public health and hospital experienced a similar pattern of growth per patient cost.

**Table 6.51: Average Capital Cost Per Patient for Public Health and Medical/Hospitals Patients 1981-2000**

Year	Rural Health Services & Preventive Health	Improvement to Health Facilities	Total Capital Expenditure Public Health	Total Public Health Facilities Outpatient Att.	Capital Cost Per Public Health Patient	Improvement to Hospitals	New Hospitals	Total Capital Expenditure Medical/Hosp.	Total MOH Outpatient & Admission Patient
1981	38,603,989	298,751	38,902,740	8,197,168	4.75	17,028,574	32,728,645	49,757,219	11,430,309
1982	38,902,740	0	38,902,740	8,472,802	4.59	17,028,574	32,728,643	49,757,217	11,822,323
1983	38,373,396	0	38,373,396	8,231,691	4.66	17,380,394	75,929,335	93,309,729	11,796,086
1984			0	8,046,152					12,037,420
1985	21,980,366	0	21,980,366	8,971,700	2.45	8,187,978	74,406,962	82,594,940	12,590,694
1986			0	9,016,370					13,254,589
1987	20,557,997	8,627,376	29,185,373	9,675,465	3.02	17,693,781		17,693,781	13,850,655
1988	29,958,517	21,192,332	51,150,849	9,749,367	5.25	10,704,753		10,704,753	14,450,561
1989	48,110,351	118,396,532	166,506,883	10,205,334	16.32	30,378,759		30,378,759	14,543,673
1990	58,864,749	212,357,001	271,221,750	10,439,972	25.98	161,255,647		161,255,647	14,674,690
1991	48,178,000	162,687,000	210,865,000	10,353,843	20.37	332,186,000		332,186,000	14,660,343
1992	34,01,628	125,522,914	159,541,542	10,286,973	15.51	401,427,790		401,427,790	14,691,703
1993	29,974,864	62,989,819	92,964,683	10,346,829	8.98	304,761,146		304,761,146	14,993,626
1994	40,851,495	69,378,109	110,229,604	10,430,513	10.57	215,705,905		215,705,905	15,175,681
1995	57,809,153	131,541,319	189,350,472	10,454,892	18.11	144,410,326		144,410,326	15,300,309
1996	112,563,255	158,635,831	271,199,086	11,648,382	23.28	157,250,727		157,250,727	15,145,328
1997	106,682,398	146,203,715	252,886,113	12,322,848	20.52	177,537,228		177,537,228	15,096,379
1998	120,933,901	166,672,212	287,606,113	13,753,941	20.91	318,684,305		318,684,305	14,828,582
1999	203,238,113	179,536,765	382,774,878	15,163,554	25.24	307,364,024		307,364,024	13,102,101
2000	368,272,553	252,027,255	620,299,808	17,168,668	36.13	486,550,401		486,550,401	12,982,360

Source: Public Accounts, Accountant General, Malaysia for the respective years and computed data from this source.

**Chart 6.18 : Operating and Development Cost Per Patient for Public Health and Hospital Patients 1981-2000**



Considering that the cost per patient care for public health programme was 3.2 times cheaper than cost per patient care for medical/hospital programme, investment in the public health programme would be more cost efficient with its less costly health facilities and cheaper health personnel to run the clinics by using auxiliary and paramedics such as community nurses. The result was seen in the increase of outpatient visits, improved sanitary latrines coverage and safe water supply to the rural areas, improved coverage for immunisations and also improved health outcomes as indicated in the lower IMR, TMR and MMR.

Tables 6.52 to 6.56 show the immunization coverage of BCG, polio, measles, DPT, and hepatitis B by state from 1985–2000. All immunisation coverage experienced large improvements especially for polio from 56 percent in 1985 to 95.4 percent in 2000 and immunisation of infants for DPT (3<sup>rd</sup> dose) improved from 56.8 percent to 95.3 percent for the same period: both had an improvement between 68 to 70 percent. BCG coverage for infants had almost reached 100 percent coverage in the country. Measles immunisation

coverage also improved from 70.1 percent to 88.4 percent and hepatitis B immunisation coverage of infants (3<sup>rd</sup> dose) improved from 86.2 percent to 93.5 percent for the same period. Looking at the tables, in year 2000, all states achieved above 90 percent coverage for all the immunisations shown and with some even exceeding 100 percent except for Kuala Lumpur. The good immunisation coverage was a result of the easily accessible public health care services available to the public especially in the rural areas. However, looking at Chart 6.19-6.22 below, Kuala Lumpur was the outlier in terms of immunisation coverage.

**Table 6.52: BCG Coverage for Infants by State 1985-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1985	98.1	87.9	100.0	93.3	100.3	87.9	100.7	99.9	93.1	101.8	87.7	97.4	90.0	104.1	94.9
1990	109.6	100.9	104.2	101.5	57.5	139.6	99.7	112.2	103.2	94.3	98.4	99.6	101.3	88.6	97.0
1995	101.7	105.1	95.1	99.4	93.7	138.1	105.9	107.3	99.5	99.5	96.2	100.3	115.9	101.4	103.6
2000	99.6	99.7	99.4	99.4	99.6	99.1	78.1	98.8	103.1	100.0	98.0	99.0	100.3	100.2	99.9
% ch.	1.6	13.4	-0.6	6.5	-0.7	12.7	-22.4	-1.1	10.7	-1.7	11.7	1.6	11.4	-3.8	5.3

Note: % ch. - percentage of increase/decrease from 1985-2000.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

**Table 6.53: Polio Immunization Coverage of Infants ( 3rd Dose ) by State 1985-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1985	60.6	48.1	52.4	44.4	55.4		71.1	65.3	73.6	67.1	50.9	64.2	50.0	82.8	56.0
1990	95.6	94.9	91.3	85.5	94.2	73.2	98.0	90.3	97.7	94.7	93.8	92.6	78.7	86.2	89.6
1995	91.3	94.4	94.5	98.3	89.4	40.4	99.1	91.0	98.6	99.7	99.0	94.2	105.7	99.3	93.0
2000	99.8	97.6	95.4	96.4	102.6	41.1	97.9	99.4	99.9	108.2	97.7	98.9	98.5	95.9	95.4
% ch.	64.7	102.9	82.1	117.1	85.2	-43.9	37.7	52.2	35.7	61.3	91.9	54.0	97.0	15.8	70.4

Note: % ch. - percentage of increase/decrease from 1985-2000.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

**Table 6.54: Measles Immunization Coverage of Infants ( 3rd Dose ) by State 1990-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1990	76.0	76.0	62.9	62.2	70.8	32.4	75.8	77.7	81.0	76.9	94.1	72.1	66.6	78.3	70.1
1995	87.3	87.2	82.0	91.6	76.5	27.2	91.7	87.6	91.6	93.7	89.9	88.8	99.2	95.4	85.5
2000	94.4	91.7	87.3	88.5	94.4	27.3	94.8	94.3	92.4	100.4	91.7	91.4	94.1	91.5	88.4
% ch.	24.2	20.7	38.8	42.3	33.3	-15.7	25.1	21.4	14.1	30.6	-2.6	26.8	41.3	16.9	26.1

Note: % ch. - percentage of increase/decrease from 1990-2000.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

**Table 6.55: Immunization of infants for Diphtheria, Pertussis and Tetanus (3rd Dose) 1985-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1985	64.0	53.3	52.1	46.1	57.1		72.3	69.0	72.8	67.2	51.4	64.3	48.6	83.2	56.8
1990	97.2	95.1	91.9	86.1	94.9	75.0	98.3	90.3	96.5	94.4	93.9	92.5	79.0	86.3	89.9
1995	90.3	95.1	94.3	97.6	89.3	42.9	99.1	90.9	98.1	98.9	98.9	96.3	106.1	99.4	93.7
2000	98.7	99.0	96.1	96.8	101.4	41.6	98.0	99.2	99.3	107.6	97.9	98.2	98.6	96.2	95.3
% ch.	54.2	85.7	84.5	110.0	77.6	-44.5	35.5	43.8	36.4	60.1	90.5	52.7	102.9	15.6	67.8

Note: % ch. - percentage of increase/decrease from 1985-2000.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

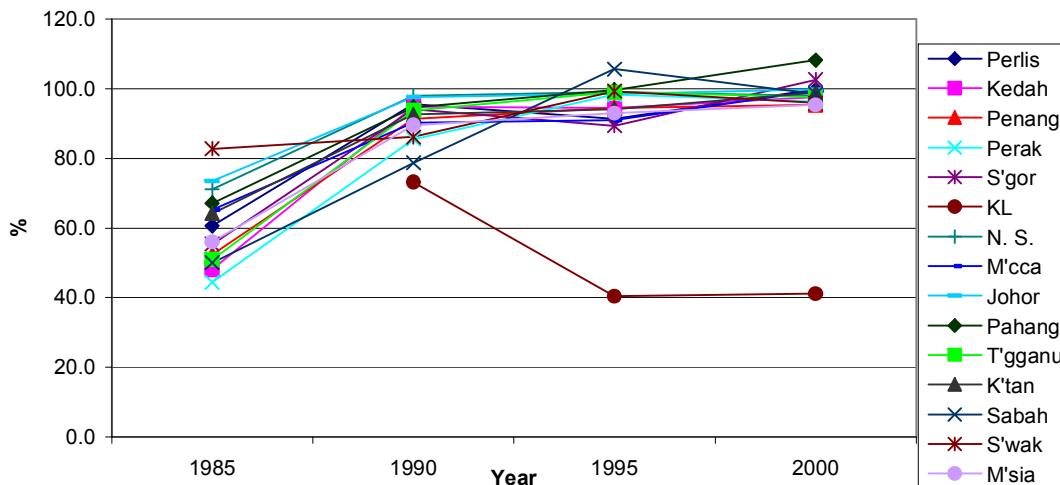
**Table 6.56: Hepatitis B Immunization Coverage of Infants ( 3rd Dose ) by State 1990-2000**

Year	Perlis	Kedah	Penang	Perak	S'gor	KL	N. S.	M'cca	Johor	Pahang	T'gganu	K'tan	Sabah	S'wak	M'sia
1990	92.2	92.0	90.8	85.3	93.3	78.2	87.3	90.9	89.8	86.7	88.8	86.3	71.6	86.0	86.2
1995	90.1	92.9	93.0	93.6	94.3	26.6	96.8	90.3	95.6	96.0	97.4	90.2	96.9	99.3	90.7
2000	97.6	99.1	92.3	95.5	101.6	38.9	93.4	96.1	96.9	106.8	97.0	96.7	92.6	97.4	93.5
% ch.	5.9	7.7	1.7	12.0	8.9	-50.3	7.0	5.7	7.9	23.2	9.2	12.1	29.3	13.3	8.5

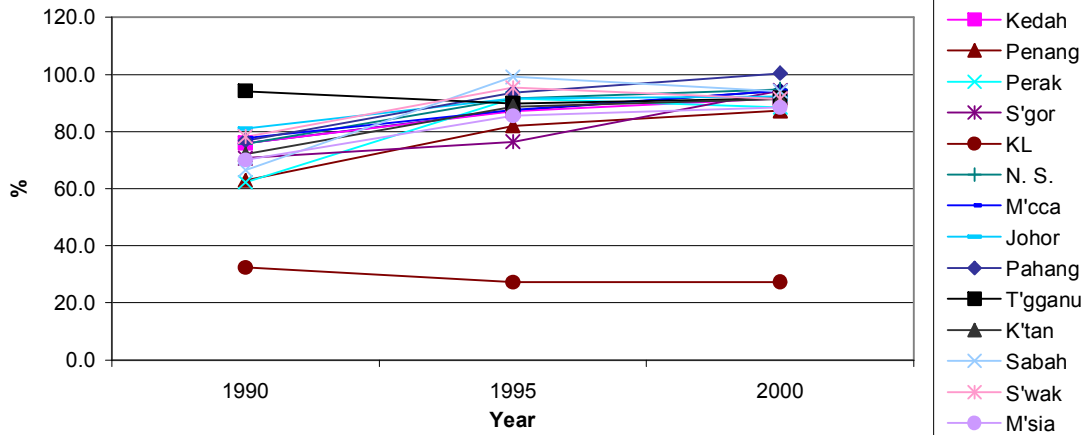
Note: % ch. - percentage of increase/decrease from 1990-2000.

Source: Information and Documentation System Unit, Ministry of Health, Malaysia.

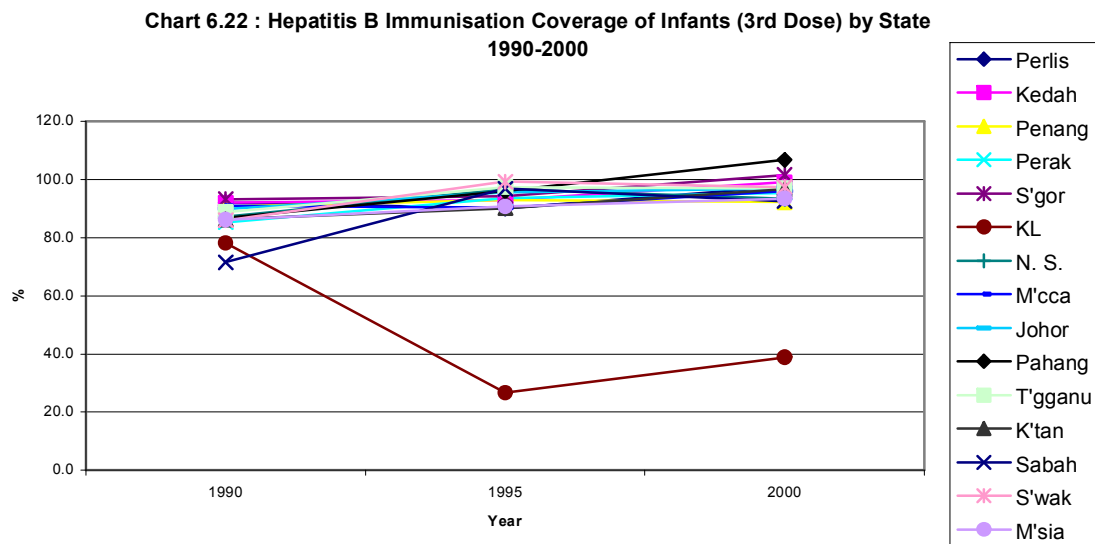
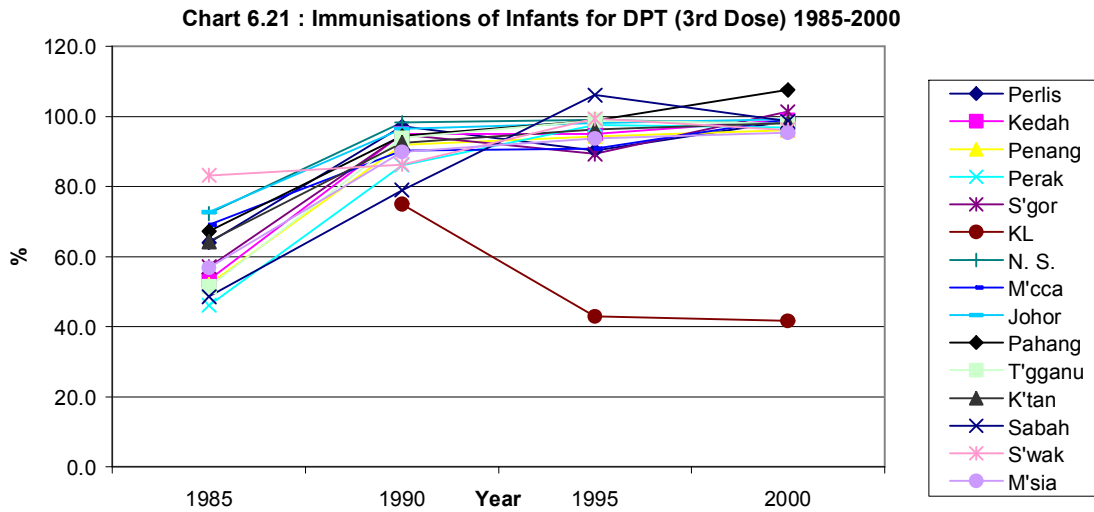
**Chart 6.19 : Polio Immunization Coverage of Infants (3rd Dose) by State 1985-2000**



**Chart 6.20 : Measles Immunisation Coverage of Infants (3rd Dose) by State 1990-2000**







As shown in Table 6.1A, Kuala Lumpur had the highest population per health clinic ratio, which was one health clinic to every 97,879 population due to the large increase in population. However, one mitigation factor is that there were a large number of private practitioners providing immunisation for their patients for a fee which was not recorded. At the same time, there was also a poor population in the capital city which should have had access to health care services without having to bear the burden of private health care costs. Equity was not achieved for the urban poor in cities as emphasis was on the

development of rural health services but urban health services for the poor were not given the same emphasis. Realising this inequitable phenomena, MOH began to integrate maternal child health services programme, an essential component of the National Rural Health Development Programme since 1956 into the urban areas through polyclinics and MCH clinics both from the MOH and some bigger local authorities.<sup>299</sup> In its effort to expand the scope of primary health care in the urban areas, MOH introduced the policy for transfer of outpatient services from medical services programme to public health services programme in 1993 but effectively implemented in 1997.<sup>300</sup> This transfer was implemented in stages. By 2001, 149 (90.9 percent) of hospitals' outpatient services and urban satellite clinics were already transferred to public health.<sup>301</sup> This was a good move by MOH as the public health programme provided wide range of an integrated approach to the delivery of its primary health care.

Finally, looking at the total operating expenditure as a whole, one would be able to see where the money is spent. See Table 6.57. The operating expenditure from 1970-1973 was initially based on four main programmes under the line budget and in 1973 when the Programme and Performance Budgeting System (PPBS) was introduced the headings were expanded to 10 from 1974 to 1993. Again when the Modified Budgeting System (MBS) was introduced the headings were reduced again to four main programmes in 1994 with an additional heading for one-offs. Medical programme has taken the biggest proportion of the health expenditure between 62 and 64 percent for most of the years from 1970 to 1992.

---

<sup>299</sup> Ministry of Health Annual Report 1997, pg. 39.

<sup>300</sup> *ibid.*, pg. 60.

<sup>301</sup> Ministry of Health Annual Report 2001, pg. 88.

However, from 1993 onwards, the proportion steadily declined until it reached 51.5 percent of the total operating expenditure in 2000.

Table 6.57: Percentage of Programme Expenditure to Total MOH Operating Expenditure 1970-2000

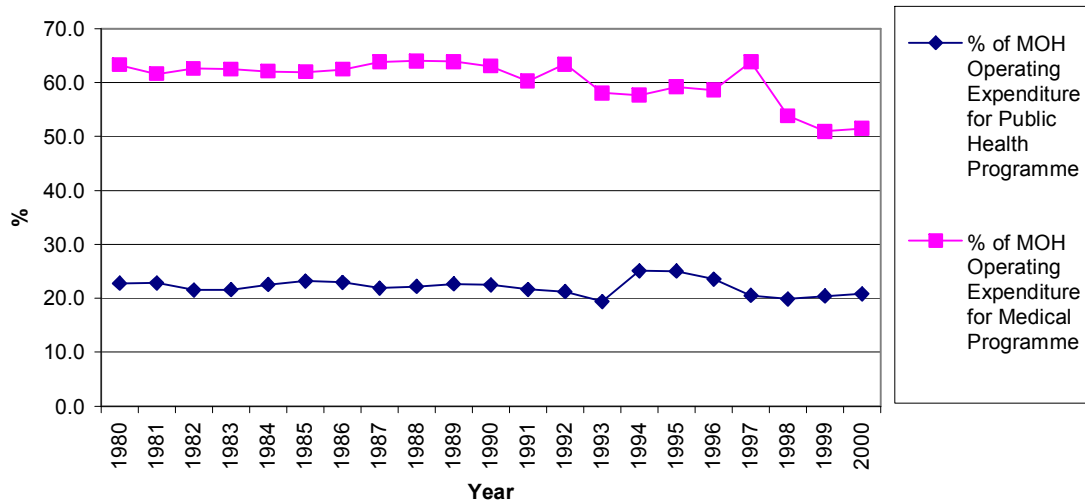
Year	General Adminis.	% to Total	Public Health	% to Total	Medical	% to Total	Support Services	% to Total	Dental	% to Total	Training	% to Total	Pharmacy	% to Total	Research	% to Total	Planning	% to Total	Eng.	% to Total
1970	6,502,289	4.2	45,051,576	29.1	95,986,178	62.0	7,276,372	4.7												
1971	9,671,379	4.6	68,443,915	32.7	118,388,865	56.6	12,601,888	6.0												
1972	9,607,027	4.1	60,347,973	25.8	150,443,700	64.4	13,374,633	5.7												
1973	10,258,822	4.0	70,596,239	27.8	158,055,660	62.2	15,170,399	6.0												
1974	12,154,485	3.9	73,194,482	23.3	197,481,743	63.0			16,052,705	5.1	8,191,725	2.6	2,827,728	0.9	3,772,455	1.2				
1975	12,221,995	3.4	82,091,242	23.1	224,343,694	63.2			18,919,141	5.3	7,939,515	2.2	4,852,142	1.4	3,874,955	1.1	476,568	0.1		
1976	12,825,137	3.2	93,551,460	23.0	261,102,342	64.2			21,077,452	5.2	8,821,566	2.2	5,194,682	1.3	3,849,954	0.9	525,610	0.1		
1977																				
1978																				
1979																				
1980	18,159,000	2.6	156,403,000	22.8	434,389,000	63.2			36,327,000	5.3	21,249,000	3.1	12,622,000	1.8	6,768,000	1.0	1,065,000	0.2		
1981	22,785,461	2.7	191,219,612	22.8	516,580,938	61.6			43,164,767	5.1	40,156,530	4.8	14,804,086	1.8	8,417,126	1.0	1,228,349	0.1	552,511	0.1
1982	22,714,019	2.6	189,967,450	21.5	552,543,948	62.6			45,014,648	5.1	44,730,402	5.1	17,554,118	2.0	8,382,589	0.9	1,264,497	0.1	702,807	0.1
1983	21,062,570	2.5	179,460,080	21.6	519,747,790	62.5			43,861,000	5.3	43,284,880	5.2	14,870,950	1.8	7,703,120	0.9	1,219,240	0.1	692,090	0.1
1984	21,132,017	2.3	206,449,518	22.5	569,457,324	62.1			51,022,784	5.6	43,369,717	4.7	15,784,300	1.7	8,498,137	0.9	1,276,010	0.1	664,779	0.1
1985	22,541,741	2.3	231,406,376	23.1	619,134,222	61.9			52,688,994	5.3	44,035,319	4.4	18,063,367	1.8	9,803,639	1.0	1,196,231	0.1	816,945	0.1
1986	24,856,075	2.3	247,669,730	22.9	674,041,222	62.4			58,519,435	5.4	43,883,872	4.1	19,367,768	1.8	9,906,936	0.9	1,239,453	0.1	877,740	0.1
1987	25,327,136	2.4	230,653,388	21.9	673,069,508	63.8			55,423,224	5.3	41,495,349	3.9	18,672,847	1.8	7,802,537	0.7	1,189,832	0.1	864,216	0.1
1988	27,299,600	2.4	247,324,000	22.2	714,542,700	64.0			57,348,200	5.1	39,584,600	3.5	18,172,200	1.6	9,440,000	0.8	1,255,800	0.1	883,800	0.1
1989	29,205,000	2.4	277,327,800	22.7	781,998,100	63.9			64,904,000	5.3	38,450,400	3.1	18,754,400	1.5	10,339,800	0.8	1,353,800	0.1	1,087,900	0.1
1990	31,836,000	2.4	295,365,000	22.4	829,432,000	63.0			69,240,000	5.3	45,821,000	3.5	19,670,000	1.5	11,245,000	0.9	1,711,000	0.1	1,161,000	0.1
1991	47,744,000	3.3	316,072,000	21.6	881,965,000	60.3			75,461,000	5.2	50,886,000	3.5	21,824,000	1.5	11,933,000	0.8	1,958,000	0.1	1,263,000	0.1
1992	40,576,346	2.3	378,953,798	21.2	1,132,603,931	63.4			91,613,163	5.1	61,219,477	3.4	24,780,309	1.4	14,061,915	0.8	2,074,356	0.1	1,526,813	0.1
1993	49,458,57	2.5	384,419,930	19.4	1,150,247,590	58.1			92,405,190	4.7	67,898,410	3.4	24,825,240	1.3	15,084,490	0.8	2,302,990	0.1	1,749,600	0.1
1994	278,055,305	12.9	639,768,743	25.1	1,241,899,788	57.7	56,674,373	2.6												
1995	256,999,901	10.8	692,967,513	25.5	1,402,401,356	59.2	41,757,780	1.8												
1996	292,837,720	9.8	704,856,451	23.5	1,756,380,423	58.6	91,232,511	3.0												
1997	250,104,147	7.7	666,904,391	20.5	2,077,280,116	63.8	84,408,417	2.6												
1998	264,094,913	8.0	658,511,015	19.9	1,783,317,133	53.8	41,374,198	1.2												
1999	281,047,408	7.8	737,266,500	20.4	1,840,194,242	51.0	574,695,695	15.9												
2000	321,065,720	7.8	858,668,005	20.8	2,127,705,110	51.5	595,554,071	14.4												

Source: Public Accounts, Accountant General, Malaysia for the respective years.

Note: The missing data show that the actual numbers were not recorded in the reports and therefore the percentages could not be computed. The format of reporting programme expenditure from 1970 to 1973 and from 1994 to 2000 were based on four main categories whereas from 1974 to 1993 the categories were expanded to nine.

Chart 6.23 below shows that the proportion for public health programme remained almost the same for the twenty years from 1980–2000, but for the medical programme beginning 1990 there was a decline in the proportion of the MOH operating expenditure. This reduction could be seen as an efficiency gain to MOH if the workload remained the same or had expanded while the proportion of expenditure had reduced for the benefit of other programmes. However, considering the expenditure in nominal terms the increase was exponential because in the last 10 years of the period, the total medical expenditure had almost doubled and if this was counted from 1970 the increase was 22 times.

**Chart 6.23 : Percentage of MOH Operating Expenditure for Public Health and Medical Programme 1980-2000**



**Chart 6.24 : Operating Expenditure for Public Health and Medical Programmes 1970-2000**

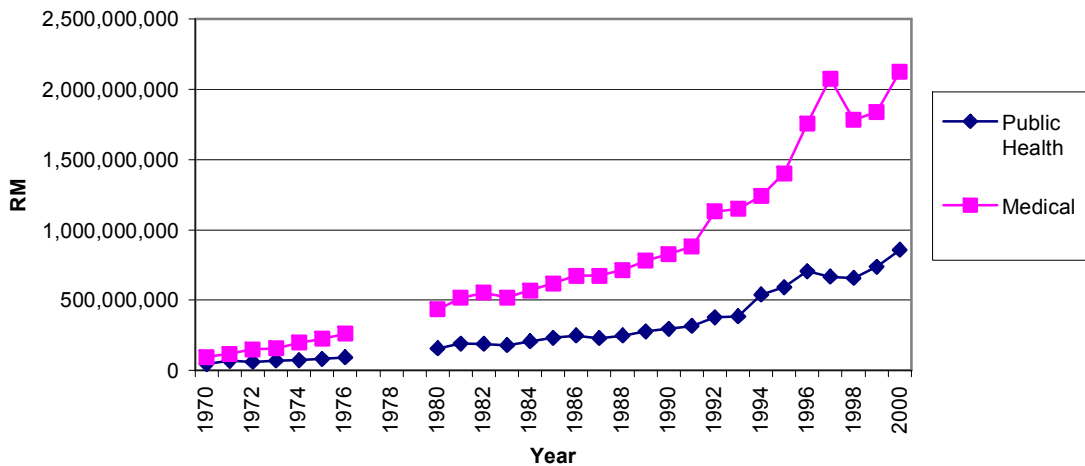


Chart 6.24 above gives a clear picture that the expenditure for medical programme had increased substantially compared to the public health programme. The public health programme had increased its expenditure 19 times for the same period. There was no doubt the cost of public health care was on a sharp increase especially for the medical

programme. The rising cost, if not checked, could easily offset all improvements made for both the programmes.

#### **4. Conclusion**

In conclusion, the government has achieved much of its equity goals through the distribution of health care resources especially health infrastructure to allow equal access of health care for all its population. There have been substantial improvements in coverage and access to health facilities for the rural population at large especially the less developed east coast states. However, in its pursuit for equity through the unequal distribution of health resources favouring the more rural states, the more urbanized states were neglected as reflected in the poor ratios. One of the successes in this pursuit is that the gaps amongst the states were significantly narrowed. However, the urban services were not given the emphasis and disparities continued between the urban poor and the urban rich. Not all the targets set by the MOH was achieved. Some took a longer time for example, the population per rural clinic ratio, and some had fluctuation patterns such as the population per acute bed ratio.

In terms of distribution of human resource, one of the achievements was the significant decline in doctor population ratio for all states and the gaps among them have narrowed but it was not the same for all categories of staff for example the ratio for dentists and pharmacists were very poor. Sabah and Sarawak fared very badly in terms of equitable distribution of manpower as many of the health personnel from West Malaysia were unwilling to serve there. There were still acute shortages of health personnel after 30

years and the distribution of health personnel were not allocatively efficient which accentuated the problem of equity as well. Improvements were concentrated on West Malaysia but not East Malaysia. Efforts made by the government were not able to stop the brain drain from the public health sector to the private sector.

Utilisation rates improved for public health facilities as rural health services expanded but hospital outpatient department attendances decreased. Other hospital services such as specialists' clinics, A&E and inpatient care had showed some improvements in terms of utilization especially during the economic slow down. Private attendances and admissions have grown substantially. Private fees may create a barrier of access in terms of affordability to the urban poor who were not properly catered for by the government compared to the rural poor.

Generally, the Malaysian health system had achieved its equity goal to reduce imbalances and disparities among the states but it was not so successful amongst the urban and rural areas. In terms of efficiency, from the available data of health facilities, health manpower and utilisation, there was no evidence to indicate that the Malaysian health care system was efficient. The expenditure data showed that cost of public health care was rising at an alarming rate and it took up a huge proportion of the national budget. There are new challenges that have emerged since 1970, which are the growing urban population and the dwindling rural population; and the growing affluence of the Malaysian society, which demands better quality care, which in turn will bring undesirable results if the government does not take cognizance of it in the planning of the health sector.

## CHAPTER SEVEN

### Operation of Malaysian government health care system

#### 1. Introduction

In any health system, equity or efficiency is considered as the guiding objective of any reform efforts. Holding national wealth and health expenditures constant, performance depends on the degree of efficiency and equity with which health care resources are deployed.<sup>302</sup> In order to measure the performance of the health system, one must look at the efficiency of the system both in terms of allocative and technical efficiency. There is a difference between allocative efficiency and technical efficiency. Technical efficiency refers to the effective use of resources in producing outputs whereas allocative efficiency is having the right mix of inputs to maximize outputs. Examples of technical inefficiencies are the oversupply of technology and allowing drug companies to earn excessive profits.<sup>303</sup> Even if allocative efficiency is achieved by the health system, the organizational level must assure efficiency by looking at the issues of productivity and quality.<sup>304</sup>

According to WHO, efficiency relates to levels of goal attainment to the inputs used to achieve them and is called “performance” as stated in the World Health Report 2000.<sup>305</sup> When assessing the performance of the system in attaining efficiency goals, the question

---

<sup>302</sup> Frenk J., *Health Policy*; 27 (1994):19-34.

<sup>303</sup> Mehrota A, Dudley RA, Luft HS., *Annual Review of Public Health*; 24:385-412.

<sup>304</sup> Frenk J., *Health Policy*; 27 (1994):19-34.

<sup>305</sup> Murray CJL & Evans BE, 2003, pg. 10.

lies in the way the health system is managed. If the system has fallen short of its potential, the questions often lie with the management and the operation of the health system. This analysis on the Malaysian public health system performance will look into how the public health services were planned, provided and managed. Was the system allocatively and technically efficient? An efficient system is also one that is responsive to the needs and the challenges surrounding the system whether it is within the system or without.

Health system's main function is to provide or deliver health services for the population. Providers are required to make the right decisions pertaining to the functioning of the system such as making the right choices on what services to provide, what skills and training are required for its personnel, what arrangements are to be made among the parties or levels of providers, which target groups to be given priority, what proportion of the allocation is for the services provided, how to organise the provision of services in the most efficient way, what sort of incentives should be given for the providers and the list goes on. Organizing a health system is very complex and the right balance is important in order that the delivery of its services will give the most impact to the population.

In this respect, the study will concentrate on MOH expenditure for a year and year 2000 was taken as representing the year under study. The analysis will look in-depth into the breakdown of expenditure in MOH for each programme by their activities in year 2000. Besides this, there will also be a comparison study of three states representing three socio-economic status to see how resources are distributed among them. Finally there will be a descriptive analysis on how budgets are planned, managed and allocated.



## **2. Analysis of Malaysian government health care system in 2000**

### ***2.1 Is the health system efficient in the provision of its services?***

The total budget allocation apportioned for MOH in 2000 was RM4,931,315,300 out of which RM4,023,162,300 or 81.6 percent of the total budget was for recurrent expenditure and RM908,153,000 or 18.4 percent was for capital expenditure. The total allocation for 2000 was 9.3 percent more than the allocation approved for 1999. The MOH budget accounted for 6.32 percent of the national budget and 2.58 percent of the country's GNP. Both the operating and development budgets were given additional allocation of RM190,699,700 and RM381,705,000 each respectively and the original allocation was revised to RM5,503,720,000. The proportion for public health expenditure has increased when compared to the amount allocated in 1990 which was only RM1,840,321,780 representing only 5.51 percent of the national budget and 1.68 percent of the country's GNP.

Besides the growing health budget, another interesting observation is that the recurrent expenditure was increasing at a faster rate compared to the capital expenditure and it took up more than 80 percent of the health budget compared to 1990 which was only 72.6 percent of the health budget as shown in Table 5.1. The figures showed that more allocation was channeled to the operation and the running of the health system now, than it was ten years back. Was this increase in the recurrent allocation efficiently distributed to get maximum output from the input invested?

The breakdown of the recurrent allocation by the different programmes is shown in Table 7.1. There are six categories of programmes by which the operating budget was allocated. The medical programme received the highest recurrent allocation amounting to RM1.9 billion which was 47.2 percent of the total recurrent budget to MOH. Next was the public health programme which received RM728 million or 18 percent of the total budget. Both these programmes constituted 65 percent of the total MOH recurrent budget. As shown in Table 7.1 the number of posts in these two main programmes constituted 90.2 percent of the total manpower required. These two programmes are the main core business of the Ministry.

**Table 7.1: Allocation of MOH Operating Budget by Programme 2000**

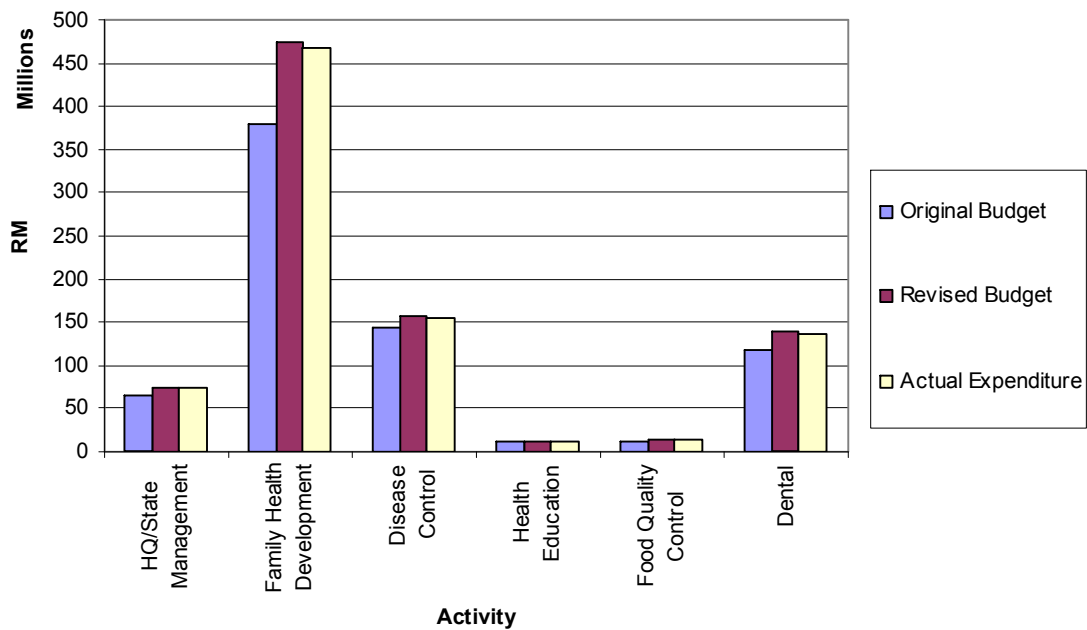
Programme	Allocation	% of Allocation to Total	No. of Post	% of Post to Total
Management	313,554,050	7.79	5,315	4.63
Public Health	727,976,600	18.09	38,061	33.13
Medical	1,899,721,700	47.22	65,520	57.04
Technical Support	601,484,550	14.95	1,536	1.34
New Policy	429,497,400	10.68	4,437	3.86
One Off	50,928,000	1.27		
Total	4,023,162,300	100.00	114,869	100.00

*Source: Public Accounts 2000, Accountant General, Malaysia*

For the public health programme there are six main activities as shown in Chart 7.1 below. Within the public health programme, family health development took up the highest health expenditure and has the widest scope of activities involved. It consisted of three main sections, namely, family health, nutrition and primary health care which covered infants, children, adolescents, women and the elderly. Services provided under family health development included maternal and perinatal health services, child health services, school health services, antenatal care, family planning services, community mental health programme, rehabilitation services especially care of children with special needs, and

nutrition programmes. The expanded scope of family health services through an integrated approach also encompassed all the other public health activities such as dental care, disease control, immunisation, health education and environmental health which are both ambulatory and preventive care. See Appendix 1

**Chart 7.1: MOH Operating Budget and Expenditure For Public Health Programme 2000**



The large expenditure on family health development is expected as this activity consists of the backbone of the primary health care services both in the rural and urban areas. This activity essentially managed all the public health facilities from OPD at hospital level right down to the rural clinics, mobile teams and flying doctors to serve the remote areas. The activity given the least allocation is health education and food quality control. This clearly shows that MOH core business is provision and delivery of health care services while health promotion is not their core business.

The public health programme as a whole incurred a total recurrent expenditure of RM858,668,005 which was 20.8 percent of the total MOH expenditure. See Table 7.2. The number of posts allocated for the public health programme was 38,061 which were 33.13 percent of total MOH posts. The total amount of emolument for staff paid out was RM641,383,437 or 31.08 percent of the total MOH emolument paid out. The amount spent on supplies and services was RM215,314,852 or 11.76 percent of the total MOH expenditure for supplies and services. Comparing the inputs of the public health programme with the medical programme, public health programme took up only one fifth of the total MOH expenditure, one third of the total health manpower and slightly over one tenth of the supplies but it is more widespread and reaches to the remotest area in the country. It has a wide scope of services and provides basic care at almost zero cost to the population. Under the public health programme there were a total of 2,447 facilities of various types from main health centres to flying-doctor service which catered for the remote rural population. See Table 7.3.

**Table 7.2: Actual Expenditure of MOH Operating Budget by Programme 2000**

Programme	Actual Expenditure	% to Total
Management	321,065,720	7.77
Public Health	858,668,005	20.79
Medical	2,127,705,110	51.51
Technical Support	595,554,071	14.42
New Policy	181,522,308	4.39
One Offs	46,504,055	1.13
Total	4,131,019,270	100.00

*Source: Public Accounts 2000, Accountant General, Malaysia*

**Table 7.3: Type of Facilities for Outpatient in the Public Health Programme 2000**

Type of facilities	Pen. Malaysia		Sabah		Sarawak		Malaysia	
	No.	Attendance	No.	Attendance	No.	Attendance	No.	Attendance
Main Health Centre	209	6,575,036	75	1,886,548	120	1,267,755	404	9,729,339
Health Sub Centre	215	3,535,211					215	3,535,211
Rural Clinic/MCQ	1,372	283,891	70	167,606	13	25,396	1,455	476,893
Mobile Health Team	12	178,971	4	15,939			16	194,910
Traveling Dispensaries	17	45,866	34	24,109			51	69,975
MCH Clinic	33	26,649	13	169,490			46	196,139
Flying Doctor Service			2	27,096			2	27,096
Village Health Team					169	166,753	169	166,753
Others	82	3,220,029	7	2,323			89	3,222,352
<b>Total</b>	<b>1,940</b>	<b>13,865,653</b>	<b>205</b>	<b>2,293,111</b>	<b>302</b>	<b>1,459,904</b>	<b>2,447</b>	<b>17,618,668</b>

Source: Medical Care Subsystem HMIS Annual Report 2000, Ministry of Health, Malaysia

**Table 7.4: MOH Development Expenditure 2000**

	Allocation	Expenditure	% Shortfall	% of Total Exp.
Training	78,610,000	72,891,128	7.27	5.73
Public Health	0	0		0.00
Rural Health Services	201,904,000	198,332,136	1.77	15.59
BAKAS	10,054,000	9,993,064	0.61	0.79
Urban Health Services	142,816,000	146,535,122	-2.60	11.52
Dental Services	16,009,000	13,412,231	16.22	1.05
Health Facilities	146,854,000	150,312,406	-2.35	11.82
Hospital Redevelopment	112,627,000	101,714,849	9.69	8.00
Hospitals	480,984,000	486,550,401	-1.16	38.25
Consultancy Services	0	0		0.00
Modification, Upgrading & Repairs	100,000,000	92,233,603	7.77	7.25
<b>Total</b>	<b>1,289,858,000</b>	<b>1,271,974,940</b>	<b>1.39</b>	<b>100.00</b>
<b>Total for Public Health Programme</b>	<b>517,637,000</b>	<b>518,584,959</b>	<b>-0.18</b>	<b>40.77</b>
<b>Total for Medical Programme</b>	<b>593,611,000</b>	<b>588,265,250</b>	<b>0.90</b>	<b>46.25</b>

Source: Public Accounts 2000, Accountant General, Malaysia

The breakdown of the capital expenditure for 2000 is shown in Table 7.4 above. The capital expenditure for the public health programme was 40.8 percent of the total MOH capital expenditure and for the whole 7MP it was 37.5 percent. See Table 7.5. The total capital expenditure for public health facilities was much less than what was spent on

hospital development. In summary, the total expenditure for the public health programme from the total MOH expenditure for year 2000 was as follows:-

Recurrent expenditure	- 20.79 %
Capital expenditure	- 40.77 %
Staff strength	- 33.13 %
Expenditure for staff emolument	- 31.07 %
Expenditure for supplies and services	- 11.76 %

**Table 7.5: MOH Development Expenditure for Seventh Malaysia Plan 1996-2000**

	Allocation	Expenditure	% Shortfall	% of Total Exp.
Training	182,928,843	167,536,570	8.41	4.50
Public Health	0	112,563,255		3.03
Rural Health Services	445,845,450	381,496,846	14.43	10.26
BAKAS	98,114,973	73,832,255	24.75	1.99
Urban Health Services	307,434,000	298,237,689	2.99	8.02
Dental Services	54,107,707	45,560,174	15.80	1.22
Health Facilities	388,898,170	481,493,922	-23.81	12.95
Hospital Redevelopment	542,912,114	421,581,850	22.35	11.34
Hospitals	1,441,820,445	1,447,386,685	-0.39	38.92
Consultancy Services	10	0	100.00	0.00
Modification, Upgrading & Repairs	294,965,259	289,559,395	1.83	7.79
Total	3,757,066,971	3,719,248,646	1.01	100.00
Total for Public Health Programme	1,294,400,300	1,393,184,141	-7.63	37.46
Total for Medical Programme	1,984,732,559	1,868,968,535	5.83	50.25

Source: Public Accounts 2000, Accountant General, Malaysia

In terms of outputs from the public health programme as shown in Table 7.6 gave very encouraging results. As shown in the previous chapter Table 6.36 shows that public health facilities outpatient attendances amount to 59.4 percent of total MOH outpatient attendances. The rest are from the medical programme or hospital facilities. Besides this, the immunization coverage for infants are all above 90 percent, safe water supply and sanitary latrines coverage for the rural population were also above 90 percent. In terms of output and outcome achievement MOH has done well in its public health programme.

**Table 7.6: Public Health Programme Outputs for Year 2000**

	%
Primary Care Outpatient Attendance	35.2
Dental Care Outpatient Attendance	28.7
Total Public Health Outpatient Attendance	63.9
BCG for newborn	99.9
3rd Hepatitis B dose for babies	93.5
3rd DPT dose for babies	95.3
3rd oral polio dose for babies	95.4
DPT Booster for children (1-2 years)	70.0
Oral polio for children (1-2 years)	70.0
BCG booster for Std. One	99.1
Antenatal care coverage	74.8
Tetanus Toxind Immunisation	86.8
Safe Deliveries	96.6
Post natal coverage	82.1
Still birth (per 1000 births)	6.2
Neonatal death (per 1000 births)	3.7
Perinatal death (per 1000 births)	10.0
Infant mortality rate (per 1000 livebirths)	7.5
Toddler mortality rate (per 1000 toddler population)	0.3
Rural population covered with safe water supply	92.9
Rural population covered with sanitary latrines	96.5

Source: Ministry of Health Annual Report 2000

**Table 7.7: Costs Per Patient for Public Health Programme 2000**

	Expenditure	No. of Outpatient	Cost per patient
Public Health Programme	858,668,005	17,618,668	48.74
Family Health Development	467,340,677	9,711,679	48.12
Dental Care	137,529,677	7,906,898	17.39
Manpower	641,383,437	17,618,668	36.40
Supplies and services	215,314,852	17,618,668	12.22
Capital Expenditure	518,584,959	17,618,668	29.43
Recurrent Expenditure	858,668,005	17,618,668	48.74

Source : Computed from data in the Public Accounts 2000, Accountant General, Malaysia and Medical Care Subsystem HMIS Annual Report 2000, IDS, MOH, Malaysia

Even for capital expenditure, the calculated cost per patient was RM29.43 as shown in Table 7.7. Adding up both recurrent and capital expenditure as the total cost, the cost per outpatient for the public health programme was RM78.17 for the year 2000. Generally, the

expenditure for this programme has been efficient in that with lower cost of resources invested, the output in terms of attendances and coverage had increased.

Analysing further into the programme, among the six activities, family health development took up RM467.3 million or 54.43 percent of total public health programme expenditure, followed by disease control (RM155.3 million or 18.09 percent) and dental services (RM137.5 million or 16.02 percent). See Table 7.8. All public health activities experienced a revised budget allocation and their expenditure exceeded the original budget. The highest increase was family health development where the actual expenditure was 22.9 percent more than the original budget and it constituted 54.43 percent of the total public health programme expenditure.

The total average expenditure for this programme taking into consideration both the recurrent and capital expenditure came out to only 30.8 percent of the total MOH expenditure and spent 31.1 percent for staff emolument and a mere 11.7 percent on supplies and services. The percentage of outpatients who benefited was 59.4 percent of the total outpatients who visited MOH health facilities. The benefits accrued to the high number of outpatients' attendance made the costs per outpatient much lower than that of the medical programme. The public health manpower expenditure and supply and services expenditure as input costs over the total public health outpatients attendances respectively provide a rough estimate of manpower cost per patient at RM36.40 and supplies and service cost per patient at RM12.22 for the public health programme. See Table 7.7 above.



**Table 7.8: Actual Expenditure and Percentage to Total for Public Health and Medical Programmes 2000**

<b>Public Health</b>	<b>Actual Expenditure</b>	<b>% to Total PH Expenditure</b>
HQ/State Management	73,592,627	8.57
Family Health Development	467,340,834	54.43
Disease Control	155,321,114	18.09
Health Education	11,433,512	1.33
Food Quality Control	13,450,240	1.57
Dental	137,529,677	16.02
Sub Total	858,668,004	100.00
<b>Medical Care</b>	<b>Actual Expenditure</b>	<b>% to Total Med. Expenditure</b>
HQ/State Management	7,178,923	0.34
Hospital Management	367,014,920	17.25
Outpatient Care	100,225,587	4.71
General Inpatient Care	202,360,333	9.51
General Medicine	175,881,490	8.27
General Surgery	116,006,193	5.45
Obstetric and Gynaecology	106,356,747	5.00
Paediatrics	89,769,400	4.22
Orthopaedics	55,076,673	2.59
Anaesthesiology	51,810,139	2.44
Oftalmology	25,041,175	1.18
Ear, Nose and Throat	9,711,448	0.46
Dermatology	5,538,108	0.26
Neurology	2,435,419	0.11
Nephrology	31,112,302	1.46
Neuro Surgery	7,169,351	0.34
Urology	7,827,318	0.37
Plastic Surgery	3,825,875	0.18
Radiotherap+A54y	10,940,689	0.51
Radiology	33,384,479	1.57
Laboratory	138,488,202	6.51
Pharmacy and Supplies	398,769,452	18.74
Catering	55,246,858	2.60
Cardiothorasic	23,054,938	1.08
Leprosy Care	11,237,987	0.53
Tuberculosis	10,087,094	0.47
Psychiatry	82,154,010	3.86
Sub Total	2,127,705,110	100.00
<b>Technical Support</b>	<b>Actual Expenditure</b>	<b>% to Total Technical Support</b>
HQ/State Management	4,163,634	0.70
Pharmacy	18,051,416	3.03
Research	16,698,678	2.80
Planning and Development	4,216,746	0.71
Engineering	552,423,597	92.76
Sub Total	595,554,071	100.00

Source: Public Accounts 2000, Accountant General, Malaysia

Other public health activities such as disease control and dental care constituted merely 18.1 percent and 16 percent of the total public health expenditure respectively. Amongst the various public health activities, priority was concentrated on the provision of primary care and not so much on disease control. This was understandable as most

infectious diseases had been under control, however, some of the diseases made a come back and needed attention from the government. Although Malaysia was declared polio-free since 1984, other diseases such as tuberculosis and malaria had the highest number of incidences in 2000. The top five diseases with the highest number of incidences are as shown in Table 7.9.

**Table 7.9: Top Five Incidences of Diseases for 2000**

Diseases	No. of incidences	No. of death	Death rate per 100,000 pop.	Fatality rates %
Tuberculosis	15,057	1,295	5.60	9
Malaria	12,705	35	0.15	
Food Poisoning	8,129			
Dengue	7,113	45	0.20	1
Measles	6,187	7	0.03	
HIV		822	3.97	16
Diphtheria				100
Viral encephalitis				3

Source: Ministry of Health  
Annual Report 2000

The total of the top five diseases with the highest number of incidences were 49,191 cases and this only represented 75 percent of total cases reported. From the top five communicable diseases, the total number of deaths was 2,204 which represented 99 percent of the total number of deaths of communicable diseases reported.<sup>306</sup> The re-emergence of communicable diseases such as tuberculosis and malaria should not be taken lightly and diseases such as AIDS and HIV need further attention.

In this respect, MOH as the main government agency did not put enough emphasis on disease control and health education as these services were not provided by the private sector. Although in terms of technical efficiency, there has been some achievement in

<sup>306</sup> Ministry of Health, Annual Report 2000, pg. 97.

primary health care but allocative efficiency was still lacking in the allocation of resources for other public health activities such as disease control and health education. See Charts 7.1. The proportion allocated for disease control, dental care and health education should have been higher.

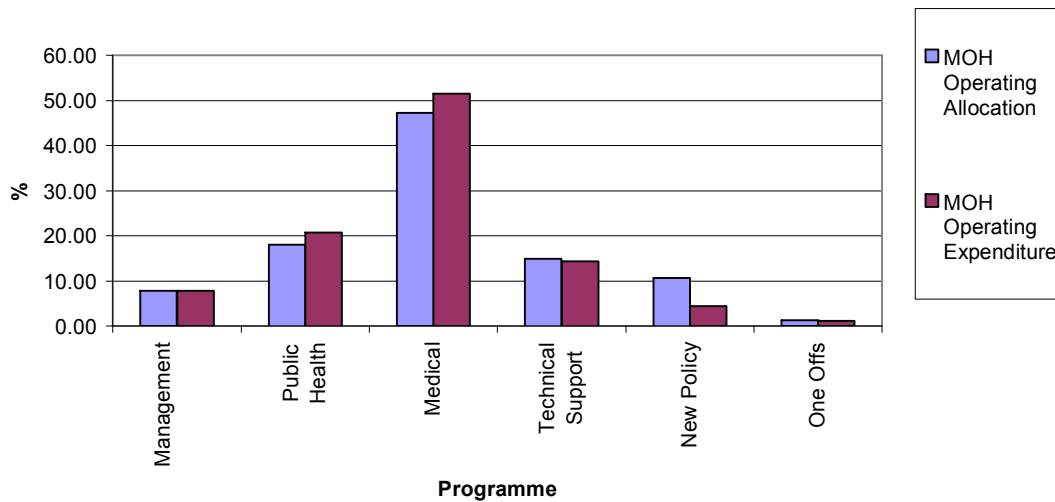
Dental care, for example, which was very much lacking in the private sector should be supplemented by public dental care but this was not emphasised as shown in the low level of expenditure on the dental care activity which was only 16 percent of the total public health care recurrent expenditure. Preventive care such as health education constituted only 1.33 percent of the total public health expenditure. On the whole the public health activities were biased towards promotion of family health development which was the core business of the MOH since Independence in promoting the goals of equity and after more than four decades, this emphasis has not changed. This was the historical pattern of delivery of health care in Malaysia and is still very much the same although demographically, epidemiologically, socially and economically the patterns have changed. Politically, this emphasis was still the best resort in keeping the population happy but to the health system it may not be efficient as resources were not allocated as much as it should to activities which were unavailable or not provided by the private sector.

Another consideration of the provision of primary health care to the rural areas was that the rural population had dwindled to only 38 percent in 2000 and the continuous allocation of resources for rural health services would not be allocatively efficient. Furthermore, as the country becomes more affluent the increased provision of such ambulatory care by the public health system will not only just be allocatively inefficient but

also ineffective as limited health care resources were not going to where the needs really were in the urban areas. The government should seriously reconsider its equity goals favouring the rural areas because in the long run such policy would waste more resources than gain any benefits from it.

As shown in Chart 7.2, the medical programme spent more than 50 percent of the total recurrent expenditure of MOH. Since every state had a general hospital with several district hospitals some with specialist care and some without, the spread of hospital facilities and hospital services also followed historical patterns where most of these hospitals were situated in major cities and towns. There has been quite an increase in the number of hospitals since 1970 from 61 to 120 units in 2000 unlike for the rural health facilities where the number has actually dwindled as shown in the last chapter. This explained the increase in hospital management costs and also the high costs of the medical care programme. In the year 2000, the medical care facilities consisted of 113 hospitals, seven medical institutions, 113 accident and emergency units, 68 specialists' clinics and 34,118 beds. Although three hospitals had their number of beds reduced, at the same time, seven other hospitals had their beds increased.

**Chart 7.2 : Percentage of MOH Operating Allocation and Expenditure By Programme 2000**

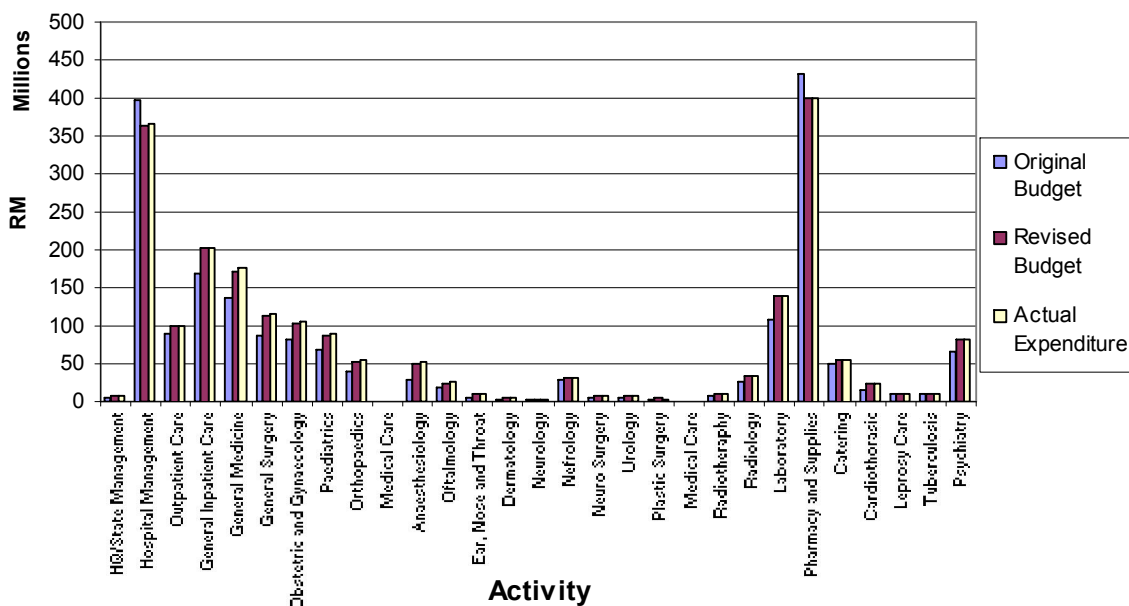


The medical programme had 27 activities under its wing consisting mainly of curative care and secondary care which had a wide range of specialist care, more diagnostic, surgical and medical interventions with high cost technological equipment. In the provision of services, the Malaysian public health services spent 2.6 times more on curative and secondary care rather than preventive and primary care. These may to a great extent increase the quality care given through its high technology innovations but it may also contribute less to what was really needed for the health of the population as a whole.

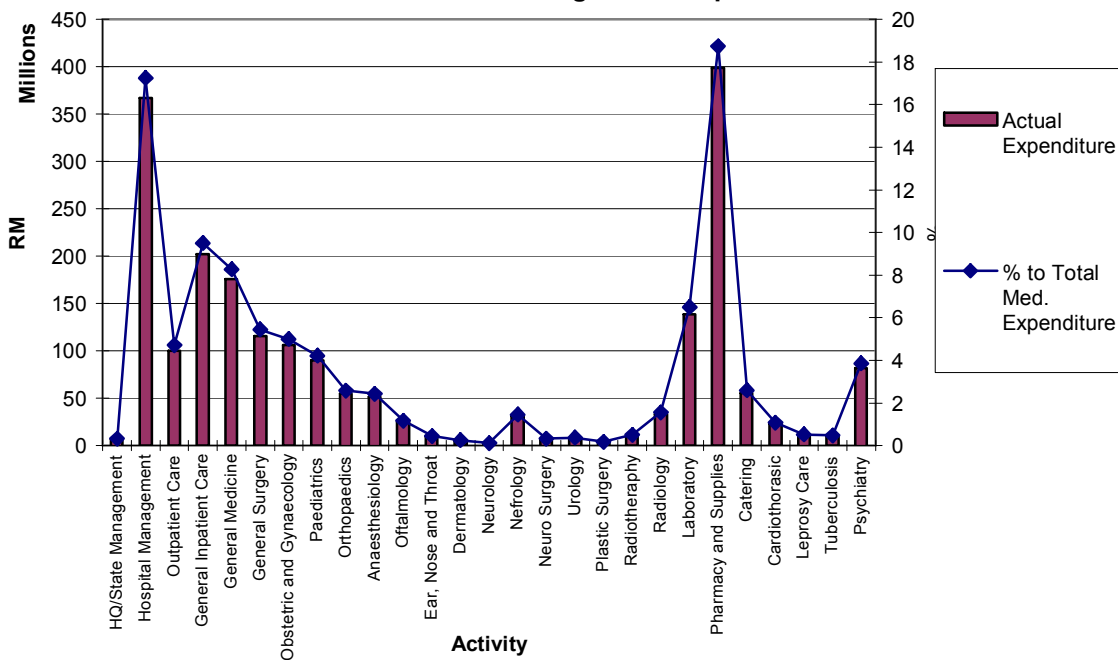
Chart 7.3 shows that for most of the activities, what was initially budgeted for was inadequate except for hospital management, pharmacy and supplies. Surprisingly both of these activities constituted the highest percentage of expenditure in the medical care programme. See Chart 7.4 & Table 7.8 above. Pharmacies and supplies constituted 18.74 percent of the total medical care expenditure and hospital management 17.25 percent of the same. General inpatient care spent 9.51 percent of the total medical expenditure. Looking

at the breakdown of the medical care activities, the expenditure was very high on hospital support activities such as hospital management and buying of drugs and consumables.

**Chart 7.3 : MOH Operating Budget and Expenditure for Medical Programme 2000**



**Chart 7.4 : Medical Care Programme Expenditure 2000**



Looking at the overall MOH recurrent allocation, Table 7.10 shows that the top three highest expenditure out of 42 activities were engineering services RM 552.4 million (13.2%), followed by family health development RM467.3 million (11.2%); and pharmacies and supplies RM398.8 million (9.6%). Interestingly, two out of these three activities had some of their services privatised, namely some engineering support services and the supply of drugs and consumables. The high spending for these two activities speak volume of the high cost privatised services as far as these two support services were concerned. Privatised services had not lessened the burden of the government in terms of reducing public expenditure and the quality of providing these services has yet to be proven cost effective. Therefore, as far as cost efficiency is concerned, there was not much gain shown by the extremely high cost of privatisation. The effect of privatisation will be further discussed below.

For the high costs of drugs and supplies, the MOH exercised a centralised procurement of drugs and distribution of drugs where the main state hospital chief pharmacists make procurement of drugs for all hospitals and clinics in the state which included public health facilities. Therefore, the high cost of drugs and consumables were justifiable but due to the monopoly of a single privatised drug company that supplied most of the drugs required for all MOH health facilities, there was a tendency for price hikes. Government Medical Stores and Supplies were privatized to Southern Task (now known as REMEDI Pharmaceuticals) in 1994. REMEDI was given a concession of 15 years to supply medical and pharmaceutical items listed in the Approved Products Price List to MOH hospitals and clinics. The list consisted of 626 items of which 456 were drugs and 170 were non-drug medical items. Every three years, there would be negotiations to

revalue the price of drugs and consumables according to market rate. REMEDI was acquired by Pharmaniaga Berhad in 1999 and the government has 30 percent stake. The concession period is until 2009. See below.

Procurement from REMEDI Pharmaceuticals (M) Sdn. Bhd.

<u>Year</u>	<u>Total Procurement</u>	<u>% of Increase</u>
1995	RM192.4 million	
1996	RM218.6 million	13.6 %
1997	RM243.9 million	11.6%
1998	RM262.9 million	7.8%
1999	RM291.0 million	10.7%
2000	RM331.0 million	13.7%
2001	RM364.4 million	10.1%

*Source: Ministry of Health Annual Report 2001, pg.214*

From 1995 to 2001, there has been an average increase of 11.25 percent and purchases from Remedi Pharmeceuticals amounted to 75 percent of MOH drug budget.<sup>307</sup> Privatisation did not necessarily improve efficiency and quality instead it created much cost inefficiency due to the nature of profit making from the privatisation exercise especially when there was only one main supplier. Allowing private ownership of resources was part of the Government's Privatisation Policy in 1983 to gain greater efficiency from the free market system and greater competition, however, in this case where it was operated by a sole private entity with limited free market entry, it was doubtful that such an arrangement was anywhere efficient with subsidised prices rising and the system driven by profit rather than cost saving. Although there was some form of negotiation between the parties on the price hike. The government could not just terminate a 15-year concession<sup>308</sup> as and when

<sup>307</sup> Ministry of Health Annual Report 2001. pg. 214.

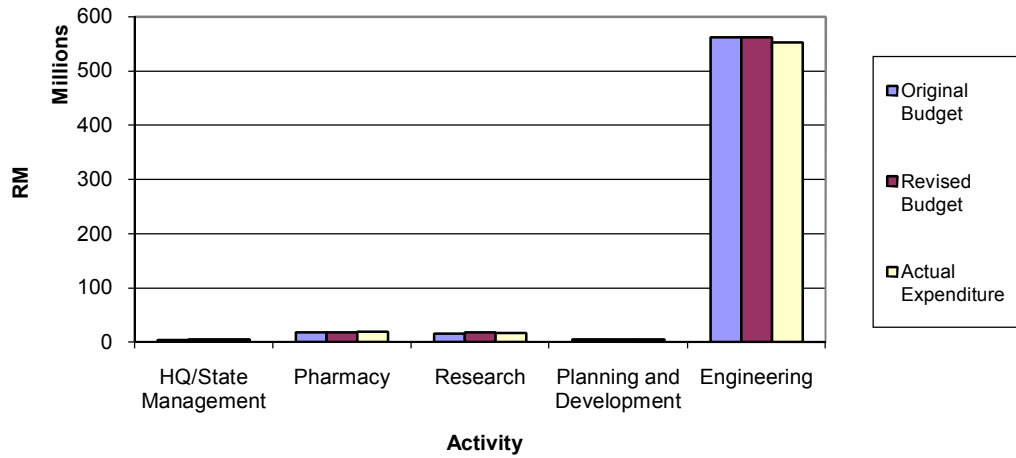
<sup>308</sup> As stipulated in the Concession Agreement with the three Concession Companies.



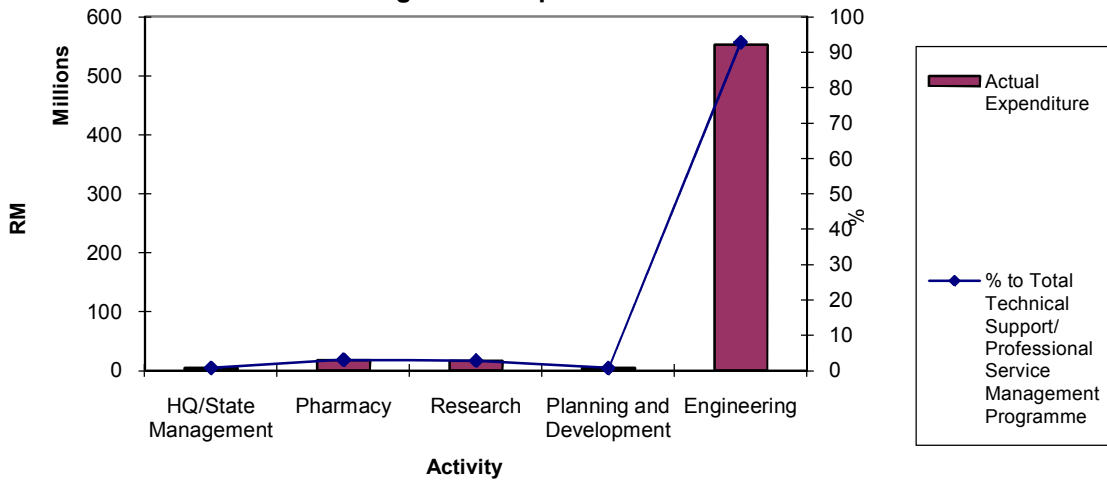
they liked. Up to the year 2000, the costs of drugs were paid by tax revenues and not by user-fees for drugs supplied through public health facilities. This could be an enormous burden for the government and in order to contain the price increase, the government sought to use more locally produced generic drugs.

The other privatised services were the five hospital support services, namely, clinical waste management, cleansing services, linen and laundry services, facility engineering maintenance and bio-medical engineering maintenance. These five services were privatised to three concession companies on 1<sup>st</sup> January 1997 for a period of 15 years according to the different regions for all hospitals in Malaysia. The high cost of privatisation was clearly seen in the Technical Support/Professional Service Management Programme. See Chart 7.5 and 7.6. Engineering activity took up the bulk which was 92.76 percent of the total technical support programme expenditure. On top of that, the government engaged another private company SIHAT Consultants to supervise and monitor the performance of these three concession companies at hospital and headquarters level. SIHAT core business was to identify shortfalls in the services provided by the concession companies which would have adverse effect on the performance or may contravene special rules and regulations relating to the particular service.

**Chart 7.5 : MOH Operating Budget and Expenditure for Technical Support/Professional Service Management 2000**



**Chart 7.6 : Technical Support/Professional Service Management Programme Expenditure 2000**



The concession companies not only absorbed the redundant hospital labour after privatisation at a higher cost but also have to put in additional capital and investment to provide services of such a large manner, for example building incinerators and so on. Due to lack of competition and such a long tenure of contract between the parties with the government there was not much incentive to use the most efficient way of production and freedom of entry to the provision of these services were not available easily. The efficiency

gained from privatisation and free market entry for a more responsive system was not seen to be fully operating in the Malaysian case. As shown above, the expenditure of the engineering services which were all privatized, including the supervising and monitoring aspects resulted in a higher expenditure as shown in the charts above. Furthermore, the effectiveness of this privatisation to ensure high quality services was questionable as it was only in 2000, three years after the privatisation exercise that the deduction formula mechanism was introduced should the concession companies fail to comply with the agreed standards, rules and regulations relating to the services rendered. SIHAT would have to assess the deduction amount based on any shortfall to be deducted from the fee charged by the concession companies. Concession fees were reviewed every three years.

After having these privatised companies in place, the engineering division of the MOH would still have to oversee the overall performance of these companies including SIHAT besides their other engineering services like the environmental sanitation programme; procurement of medical and engineering equipment for hospital and health facilities; coordinating, monitoring maintenance and minor works for MOH buildings and facilities; and providing technical advice for development projects and technical assistance. It was interesting to note that of all the services of MOH, engineering services took up the highest proportion of the total MOH recurrent expenditure which amounted to RM552.4 million or 13.2 percent of MOH total expenditure or 92.76 percent of the technical support and professional service programme expenditure.

**Table 7.10: MOH Operating Budget, Expenditure, Manpower Strength and Workload for 2000**

<b>Management</b>	<b>Original Budget</b>	<b>Revised Budget</b>	<b>Expenditure</b>	<b>% Exp. To Total</b>	<b>Number of Post</b>
HQ/State Management	52,821,750	59,595,467	57,307,466	1.39	2,628
Human Resource	23,699,450	28,844,130	27,001,912	0.65	116
Finance	111,691,000	124,812,880	112,162,586	2.72	218
Manpower Planning & Training	125,341,850	133,719,196	124,593,756	3.02	2,303
Sub Total	313,554,050	346,971,673	321,065,720	7.77	5,315
<b>Public Health</b>					
HQ/State Management	63,714,950	73,872,116	73,592,627	1.78	3,063
Family Health Development	380,150,150	475,273,249	467,340,834	11.31	20,472
Disease Control	143,676,550	156,931,295	155,321,114	0.38	7,727
Health Education	11,973,450	12,222,487	11,433,512	0.28	169
Food Quality Control	11,391,150	13,466,205	13,450,240	0.33	525
Dental	117,070,350	137,757,683	137,529,677	3.33	6,105
Sub Total	727,976,600	869,523,035	858,668,005	20.79	38,061
<b>Medical Care</b>					
HQ/State Management	6,184,900	7,926,435	7,178,923	0.17	199
Hospital Management	397,289,600	363,457,521	367,014,920	8.88	17,720
Outpatient Care	88,757,300	100,556,231	100,225,587	2.43	3,978
General Inpatient Care	167,341,100	201,371,493	202,360,333	9.51	5,309
General Medicine	135,812,800	170,187,940	175,881,490	4.26	5,412
General Surgery	87,587,400	112,968,269	116,006,193	2.81	4,341
Obstetric and Gynaecology	82,486,800	102,534,974	106,356,747	2.57	5,378
Paediatrics	68,045,700	87,598,628	89,769,400	2.17	3,717
Orthopaedics	40,502,600	52,561,605	55,076,673	1.33	1,711
Anaesthesiology	29,226,300	50,534,391	51,810,139	1.25	1,653
Ophthalmology	17,563,100	24,739,899	25,041,175	0.61	796
Ear, Nose and Throat	5,919,000	9,794,084	9,711,448	0.24	364
Dermatology	3,713,400	5,438,149	5,538,108	0.13	195
Neurology	1,827,700	2,416,100	2,435,419	0.06	323
Nefrology	28,813,900	31,580,970	31,112,302	0.75	229
Neuro Surgery	5,629,900	7,132,030	7,169,351	0.17	148
Urology	6,323,700	7,930,420	7,827,318	0.19	325
Plastic Surgery	3,866,300	4,170,338	3,825,875	0.09	110
Radiotherapy	7,729,000	11,227,955	10,940,689	0.26	266
Radiology	25,326,400	33,524,270	33,384,479	0.81	1,067
Laboratory	106,598,100	139,401,260	138,488,202	3.35	3,060
Pharmacy and Supplies	430,900,900	400,828,750	398,769,452	9.65	2,083
Catering	49,380,200	56,361,240	55,246,858	1.34	1,442
Cardiothorasic	14,645,800	22,820,720	23,054,938	0.56	162
Leprosy Care	10,276,600	11,825,280	11,237,987	0.27	456
Tuberculosis	10,964,800	10,291,640	10,087,094	0.24	923
Psychiatry	67,008,400	80,832,540	82,154,010	1.99	4,103
Sub Total	1,899,721,700	2,110,013,13	2,127,705,110	51.51	65,520
<b>Technical Support/Professional Service Management</b>					
HQ/State Management	3,640,050	4,072,740	4,163,634	0.10	120
Pharmacy	17,084,750	17,837,490	18,051,416	0.44	679
Research	14,569,550	17,790,020	16,698,678	0.40	551
Planning and Development	4,239,650	4,108,590	4,216,746	0.10	107
Engineering	561,950,550	561,589,070	552,423,597	13.37	79
Sub Total	601,484,550	605,397,910	595,554,071	14.42	1,536
<b>New Policy</b>					
Mgt. & Training Improvement	20,000,000	15,000,000	8,254,514	0.20	
PH Services Improvement	70,000,000	70,000,000	53,164,479	1.29	
Medical Serv. Improvement	127,497,400	127,497,400	103,220,348	2.50	
Research & Eng. Improvement	2,000,000	2,000,000	1,316,455	0.03	
Projects To Be Completed	210,000,000	16,530,850	15,566,512	0.38	4,437
Sub Total	429,497,400	231,028,250	181,522,308	4.39	
<b>One Offs</b>					
Acquisition of Assets	50,928,000	50,928,000	46,504,055	1.13	
<b>Grand Total</b>	<b>4,023,162,300</b>	<b>4,213,862,00</b>	<b>4,131,019,270</b>	<b>100.00</b>	<b>225,201</b>

Source: Public Accounts 2000, Accountant General, Malaysia

In other words, privatisation was simply transferring the rendering of the services to a private entity in line with the Government's Privatisation Master Plan to give more control of resources to the private sector. It has nothing to do with incentives for efficiency and lower cost production, although with some improved quality but at a much higher cost. Such privatisation did not promote cost efficiency due to the high cost involved because the manpower employed were almost the same but with higher cost, as salary for the same work was higher in the private company, the manner the services rendered were the same but with additional cost to make up the profit for the private companies along with higher administrative and supervision cost to produce the same output of work. As this was a national policy matter, MOH was required to flow along with the national objectives at the expense of sacrificing low cost efficiency.

Another example is the National Heart Institute (IJN), corporatised in 1992, was able to attract medical specialists by offering competitive salaries and offer better services to the public. However, there were complaints of long waiting lists for poor patients and the movement of a number of specialists to the private sector.<sup>309</sup> The average waiting time was about six to nine months and the number of outpatients had increased from 50,000 in 1995 to 122,000 in 2005 whilst inpatients also increased from 8,000 to 12,000 for the same period. Due to the increase, IJN has recently announced that they would add an additional 428 beds to meet the demand which will cost RM259 million.<sup>310</sup> This waiting list could be attributed to the fact that this is the main hospital for cardiac cases besides the three other regional centres and most of the cases were referred here from the 118 hospitals nation-

---

<sup>309</sup> The Star 18 September 1996

<sup>310</sup> The Star, 30 August 2005.

wide. In 2001, the government paid RM94.8 million in medical fees for more than 68 percent of the patients at IJN of which RM66.2 million or 69.83 percent were spent on civil servants and pensioners and RM28.6 million or 30.17 percent on those who could not afford. In this way, the government will only be paying for those which the public subsidy is meant to be given, mainly the poor and the civil servants and leave those who can afford to pay, on their own. Not only has the corporatisation of IJN increased the government's burden of subsidising for the poor but it was allocatively inefficient and inequitable because the poor had to wait much longer than patients who could afford to pay and jump the queue.

Table 7.10 showed that the medical programme as a whole took up RM2.128 million or 51.51 percent of MOH's total recurrent expenditure and RM588.3 million or 46.25 percent of MOH total capital expenditure for the year 2000. In terms of manpower it has been allocated 65,520 posts or 57.04 percent of total MOH posts and the total expenditure for staff emolument was RM1,284 million or 62.21 percent of total MOH expenditure. The summary of inputs and outputs are shown in Table 7.11. Comparing the public health expenditure and medical expenditure, Table 7.12 shows the cost per patient for both programmes using the same formula of inputs over outputs. The mean recurring cost per patient was 456 percent higher for medical care compared to public health care services.

**Table 7.11: Cost Per Patient for Medical Care Programme 2000**

	Expenditure	No. of Inpatient and Outpatient	Cost per Patient
Recurrent Expenditure	2,127,705,110	12,982,360	163.89
Capital Expenditure	588,265,250	12,982,360	45.31
Manpower	1,283,986,877	12,982,360	98.90
Supplies and services	843,568,982	12,982,360	64.98

*Source : Computed from data in Public Accounts 2000, Accountant General, Malaysia.*

**Table 7.12: Comparing Cost per patient for Public Health and Medical Care Programme 2000**

	Public Health cost per patient	Medical Care cost per patient	% of Difference
Recurrent Expenditure	29.43	163.89	456.82
Capital Expenditure	48.74	45.31	-7.02
Manpower	36.40	98.90	171.68
Supplies and services	12.22	64.98	431.70

*Source : Computed from data in Public Accounts 2000, Accountant General, Malaysia.*

There seemed to be an imbalance in terms of public health and medical care expenditure, although generally hospital expenditure was expected to be higher than public health expenditure. Allocation of the budget seemed to be heavy on curative activities where more attention was given to the cure of individuals rather than to the population at large through preventive care. The proportion given to the medical programme did not commensurate with the number of outpatient attendances and admissions to the hospital. In terms of utilisation, public health facilities received more patients totalling 17.62 million outpatient attendances whereas, hospitals received 12.98 million outpatient attendances and inpatient admissions combined.

If analysed in terms of per ringgit spent on the improvement of the population's health, the focus should be for more cost-effective and cost-efficient activities and channeling the resources towards this end. Although public health activities may not have a direct impact on the population's health immediately, they have a large potential impact

in the long run which can benefit the population at large. For example, immunization, early screening, healthy lifestyle campaign and so on do not require very high expenditure as medical care expenditure but the results can be more beneficial in the long run. Therefore, allocation of resources and funds for the medical programme has to be evaluated to ensure resources are distributed efficiently when comparing the two main core business of the Ministry.

Although the number of outpatient attendances and admissions has reduced in 2000 compared to the previous years, the government was still building more hospitals. In 2000 alone, the capital expenditure for 2000 included the construction of 12 new hospitals. On the whole, the average bed occupancy rate for all MOH hospitals in 2000 was only 60 percent. This created much inefficiency in terms of allocating resources to a programme where the output did not justify it. Recently, the Minister of Health announced that the building of big hospitals would be reviewed as some of these “5-star hotels” hospitals which cost between RM500 million and RM700 million were operating at half the capacity and some with bed occupancy rate of less than 25 percent.<sup>311</sup> Following that, MOH recently announced that no new hospital would be built under the 9MP and that the ministry was now in favour of smaller hospitals, for example, 20-bedded hospitals with basic medical facilities such as maternity wards and X-ray machines. The statement given by the Health Minister clearly revealed the inefficiency and the wastage of resources in the public health care system.

---

<sup>311</sup> The Star, 11 June 2005.



Breaking down the medical programme to its various activities, Chart 7.3 and 7.4 show the expenditure pattern of all its activities and Table 7.8 gives the breakdown of the percentage of each activity to the total medical programme expenditure. Pharmacy and supplies ranked the highest in medical expenditure at RM398.8 million or 18.74 percent of the total medical programme expenditure, followed by hospital management at RM367.0 million or 17.25 percent. Between inpatient and outpatient care, general inpatient care expenditure doubled that of outpatient care at RM202.4 million compared to outpatient care at RM100.2 million. However, this figure did not give an accurate picture of outpatient care expenditure as it did not include outpatient attendance in accident and emergency departments which came under hospital management. The reduction of outpatient care expenditure was also due to the transfer of OPD in hospital to the public health programme.

Among the specialists' services, the top three were general medicine RM175.9 million or 8.27 percent of the total medical programme expenditure, general surgery RM116.0 million or 5.45 percent and obstetric and gynaecology RM106.4 million or 5.0 percent. Among the sub-speciality services, nephrology was the highest spender with RM31.1 million or 1.46 percent. Table 7.13 shows the workload of each activity against the expenditure. Cost per patient was calculated by using the total expenditure of each activity and dividing it by the total inpatient and outpatient treated under that activity. Cost per procedure was also calculated by using the total expenditure for that particular activity and dividing it by the total procedures done for the same activity. Table 7.13, Charts 7.7 and 7.8, show that among the activities, cardiothoracic was the most expensive one where the cost per patient was RM26,110 and only 883 patients were treated followed by radiotherapy where the cost per patient was RM1,991 with 5,494 patients treated. Among

the sub-specialities, although nephrology had the highest expenditure, it was more cost-efficient because the output in terms of number of patients treated was 88,201 which made the average cost per patient amount to RM118.45 and the average cost per procedure was RM245.51. Another sub-speciality which was also cost efficient was plastic surgery which spent RM3.8 million and treated a total of 36,591 patients with the average cost per patient at only RM116.58.

**Chart 7.7 : Cost Per Inpatient and Outpatient for Medical Activity 2000**

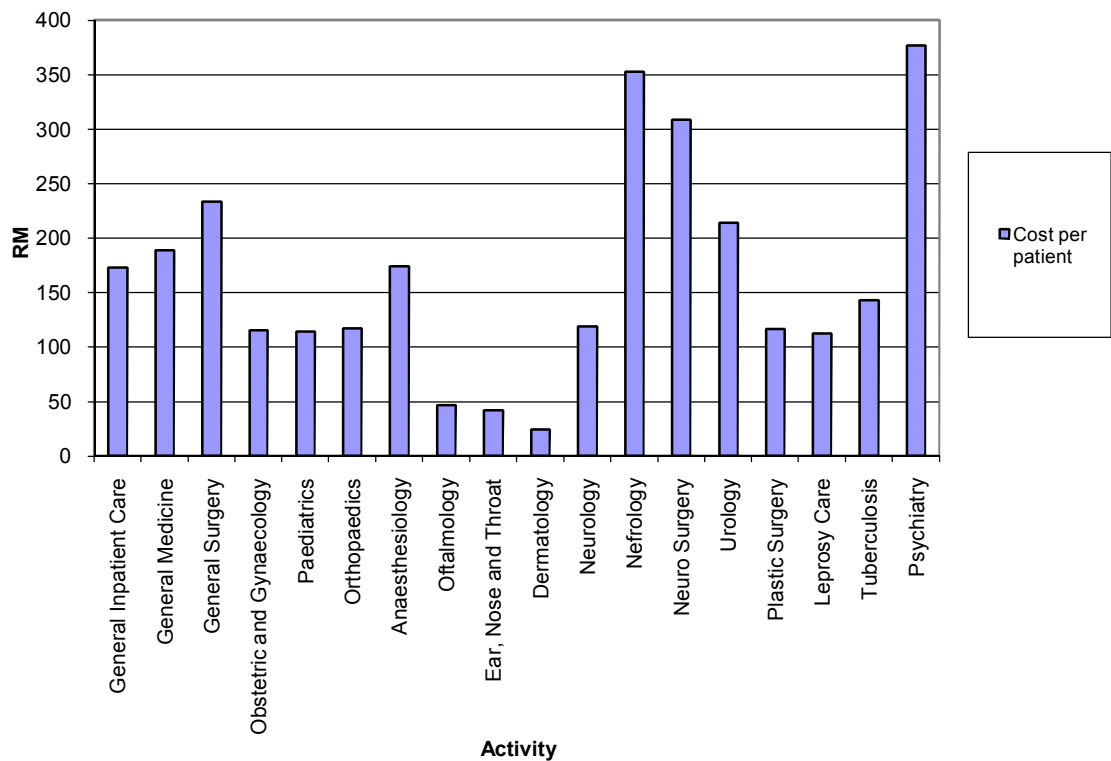
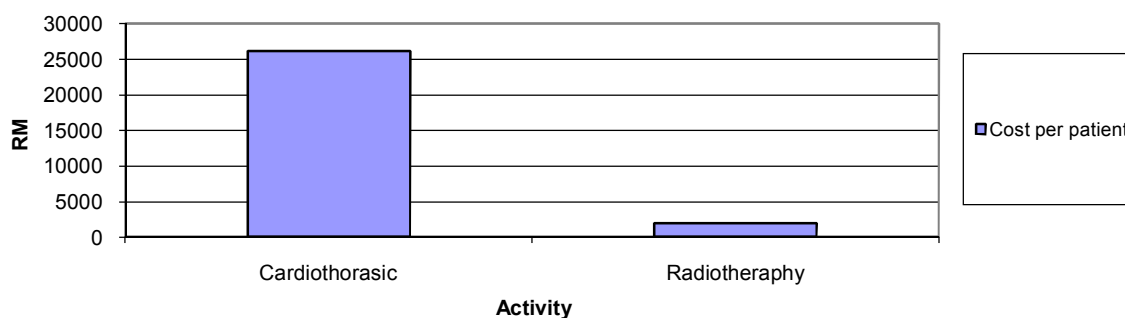


Chart 7.8 : Cost Per Patient for Cardiothoracic and Radiotherapy 2000



	Expenditure	No. of Outpatient	No. of Inpatient	Total Patients	Cost per patient	No. of Surgery/ Treatment/Investigation	Cost per procedure
General Inpatient Care	202,360,333		1,171,170	1,171,170	172.78	283,102	714.80
General Medicine	175,881,490	573,731	358,293	932,024	188.71		
General Surgery	116,006,193	312,494	185,024	497,518	233.17	103,203	1,124.06
Obstetric and Gynaecology	106,356,747	569,776	353,453	923,229	115.20	43,403	2,450.45
Paediatrics	89,769,400	408,423	379,324	787,747	113.96		
Orthopaedics	55,076,673	319,501	150,778	470,279	117.11	201,306	273.60
Anaesthesiology	51,810,139	49,882	248,582	298,464	173.59		
Ophthalmology	25,041,175	496,089	38,957	535,046	46.80	39,565	632.91
Ear, Nose and Throat	9,711,448	215,069	18,217	233,286	41.63	30,427	319.17
Dermatology	5,538,108	222,737	7,865	230,602	24.02	11,405	485.59
Neurology	2,435,419	18,899	1,662	20,561	118.45		
Nefrology	31,112,302	51,649	36,552	88,201	352.74	126,725	245.51
Neuro Surgery	7,169,351	16,439	6,823	23,262	308.20	2,863	2,504.14
Urology	7,827,318	30,407	6,184	36,591	213.91	13,422	583.17
Plastic Surgery	3,825,875	30,155	2,663	32,818	116.58	4,006	955.04
Radiotheraphy	10,940,689		5,494	5,494	1,991.39	25,187	434.38
Cardiothoracic	23,054,938			883	26,109.78	883	26,109.78
Leprosy Care	11,237,987	1,672	98,644	100,316	112.03	1,653	6,798.54
Tuberculosis	10,087,094	65,760	5,010	70,770	142.53	65,972	152.90
Psychiatry	82,154,010	218,129		218,129	376.63	6,386	12,864.71
Laboratory	138,488,202					55,675,256	2.49
Radiology	33,384,479					2,670,488	12.50
Pharmacy and Supplies	398,769,452	12,576,431	6,122,823			18,730,921	21.29
Catering	55,246,858		25,373,534			25,373,534	2.18

Source: Computed from data in Public Accounts 2000, Accountant General, Malaysia and Medical Care Subsystem H MIS Annual Report 2000, IDS, MOH, Malaysia

Cardiothoracic was the most expensive activity due to the high cost of procedures which made the cost per patient very high at RM26,110 but the provision of this tertiary care was necessary for the poor who could not afford private care for such services which would have cost a fortune. The same goes for radiotherapy, although the private hospitals offered such services, somehow, the provision of these services by the government hospital was equitable and allocatively efficient in that it met the objective of the government to

provide care right up to tertiary level through a proper channel of referral for those who could not afford such catastrophic health expenditure. At the moment only four regional referral hospitals provided this service.

Among the specialities for secondary care, the cost per patient ranged between RM24.0 for dermatology to RM233.2 for general surgery. The workload in terms of total patients treated ranged from 230,602 for dermatology to 932,024 for general medicine. The three specialities which were more technically more efficient than the others were dermatology, ENT and ophthalmology. Orthopaedics was the activity with highest number of procedures done and had the lowest cost per procedure compared to the rest. See Table 7.13. As for institutional care, psychiatry had the highest number of patients totaling 218,129 but the cost per patient was higher than tuberculosis and leprosy care. Therefore, among the institutional care provided, psychiatry was technically most efficient.

Table 7.14 shows the supply of manpower resources by the emolument paid out to health personnel and the number of posts allocated to each activity for 2000. Assuming all the posts were filled across the board, the cost of manpower was measured by dividing the expenditure by the number of posts. There seemed to be a wide variation from between RM7,375 at the lowest to RM40,092 at the highest. This showed that there were some imbalances in the distribution of human resources among the different activities. Surprisingly, the least cost per manpower was nephrology at RM7,375 followed by hospital management at RM10,257. The activity with the highest manpower cost, besides human resource which managed all manpower, was neuro-surgery at RM40,092 followed by general in-patient care at RM36,884. Combining the mix of manpower cost and recurrent

expenditure, among the medical programme activities, nephrology seemed to be technically most efficient and among institutional care, tuberculosis was also efficient in terms of manpower supply.

**Table 7.14: Emolument and Cost per Manpower by Activity 2000**

<b>Management</b>	<b>Emolument</b>	<b>Number of Post</b>	<b>Cost Per Manpower</b>
HQ/State Management	27,543,550	2,628	10,480.80
Human Resource	24,524,517	116	211,418.25
Finance	4,636,488	218	21,268.29
Manpower Planning & Training	42,548,901	2,303	18,475.42
<b>Public Health</b>			
HQ/State Management	63,670,458	3,063	20,786.96
Family Health Development	338,264,873	20,472	16,523.29
Disease Control	111,634,715	7,727	14,447.36
Health Education	2,565,420	169	15,180.00
Food Quality Control	10,424,685	525	19,856.54
Dental	114,823,286	6,105	18,808.07
<b>Medical Care</b>			
HQ/State Management	6,136,403	199	30,836.19
Hospital Management	181,745,499	17,720	10,256.52
Outpatient Care	92,449,450	3,978	23,240.18
General Inpatient Care	195,815,059	5,309	36,883.61
General Medicine	139,944,859	5,412	25,858.25
General Surgery	95,404,949	4,341	21,977.64
Obstetric and Gynaecology	98,237,079	5,378	18,266.47
Paediatrics	82,799,624	3,717	22,275.93
Orthopaedics	47,928,140	1,711	28,011.77
Anaesthesiology	37,108,101	1,653	22,448.94
Ophthalmology	20,543,282	796	25,808.14
Ear, Nose and Throat	7,678,447	364	21,094.63
Dermatology	4,556,217	195	23,365.22
Neurology	2,382,119	323	7,374.98
Nephrology	4,667,515	229	20,382.16
Neuro Surgery	5,933,650	148	40,092.23
Urology	6,233,254	325	19,179.24
Plastic Surgery	3,017,881	110	27,435.28
Radiotherapy	6,056,638	266	22,769.32
Radiology	26,154,662	1,067	24,512.34
Laboratory	71,696,919	3,060	23,430.37
Pharmacy and Supplies	44,287,181	2,083	21,261.25
Catering	18,354,528	1,442	12,728.52
Cardiothoracic	5,130,271	162	31,668.34
Leprosy Care	6,710,504	456	14,716.02
Tuberculosis	8,577,431	923	9,292.99
Psychiatry	64,437,214	4,103	15,704.90
<b>Technical Support</b>			
HQ/State Management	3,497,667	120	29,147.22
Pharmacy	12,807,909	679	18,862.90
Research	12,528,457	551	22,737.67
Planning and Development	3,563,672	107	33,305.34
Engineering	2,789,604	79	35,311.44
<b>New Policy</b>			
Mgt. & Training Improvement			
PH Services Improvement			
Medical Services Improvement			
Research & Eng.Improvement			
Projects To Be Completed	4,095,717	4,437	923.08

Source: Computed from data in Public Accounts 2000, Accountant General, Malaysia

There were 113,461 posts allocated in 2000 but only 96,271 posts were filled which was only 84.8 percent. For the management and professional posts only 69.4 percent were filled and for paramedics and auxiliaries, 88 percent was filled and for support and common user, 84.4 percent was filled. To meet the shortages of specialists and medical officers, a total of 296 foreign and local specialists and medical officers were recruited on contract but it was not enough to fill the gap. In order to fill the gaps for specialist posts, the government sent 213 medical officers for post-graduate training and 46 for sub-speciality medical courses. 9,435 new posts were created in the year 2000 which included 1,003 promotional posts. Although these new promotional posts were created, the filled posts for specialists dropped to 57.05 percent compared to 90.06 percent in 1999.<sup>312</sup>

Table 7.15 shows that for the management and professional group there was 3,687 vacant post or 30.6 percent of the posts unfilled. This was a large shortfall in terms of professional manpower supply. 171 from this group opted for retirement before their retirement age from the government service. The largest filled group was the paramedics and auxiliary staff which make up of 58.9 percent of total MOH manpower supply and the support group at 32.4 percent compared to the management and professional group which was only 8.7 percent and yet 70 percent filled. The other two lower categories have more than 80 percent filled. This shows that MOH rely heavily on allied health manpower rather than specialists and professionals in the delivery of its services which makes the public health system efficient.

---

<sup>312</sup> MOH Annual Report 2000, pg. 11

It is important to have a right mix of manpower in order not to have specialists doing simple tasks and leave too few specialists for quality care. In Malaysia the main issue is inadequate manpower supply. Table 7.16 clearly shows the inadequate supply of health manpower especially dentists and pharmacists in the public sector.

**Table 7.15: Manpower Supply of MOH for 2000**

	Management & Professional	Paramedic & Auxiliary	Support & Common User	Total
Posts	12,056	64,426	36,979	113,461
% to Total	10.6	56.8	32.6	100.0
Filled	8,369	56,708	31,194	96,271
% to Total	8.7	58.9	32.4	100.0
Vacant	3,687	7,718	5,785	17,190
% Filled	69.4	88.0	84.4	84.8
% Vacant	30.6	12.0	15.6	15.2
Optional Retirement (OR)	171	141	104	
% of OR to Total No. of Retirement	41	34	25	

*Source: Ministry of Health Annual Report 2000*

The large number of nurses and rural nurses in the public sector showed that the system was efficient in using lower cost personnel and yet able to deliver quality services. A total of 5,360 allied health personnel were trained for the year 2000 compared to 4,278 the previous year and 1,565 went for post-basic training compared to only 1,280 in 1999. Conversion courses were also carried out to improve the skills and knowledge of staff. In 2000, 140 assistant nurses were trained and upgraded to staff nurses, 47 midwives to community nurses and 155 community nurses to staff nurses. Furthermore, in order to recruit health personnel at a faster pace, walk-in interviews were introduced to shorten processing time.

Human resource was one of the important resources but there were also other resources such as physical resources and supplies, which also represented the inputs to the system and a right balance between these resources would make the delivery of health services effective and efficient. Obviously what is the right balance was not easily determined as they depended on a variety of factors that influenced the demand and supply in the health system such as needs, expectations, priorities, and so on.

Generally, the supplies and services expenditure in MOH took up 44.32 percent of MOH total recurrent expenditure. This was a large amount for supplies and services. The detailed breakdown by activity is shown in Table 7.17. The three activities that had the highest expenditure for supplies and services were none other than engineering services RM549.6 million or 30 percent of the total MOH expenditure on supplies and services, followed by pharmacy and supplies RM354.5 million or 19.4 percent and hospital management RM185.2 million or 10.1 percent. These three activities alone took up almost 60 percent of the total expenditure on supplies and services. Among all the clinical activities, neurology has the highest emolument over supplies, that were 44.69 times more in expenditure for manpower than supplies; and nephrology spent the least on manpower than supplies and services where the expenditure for supplies and services was 5.7 times more than expenditure for manpower.

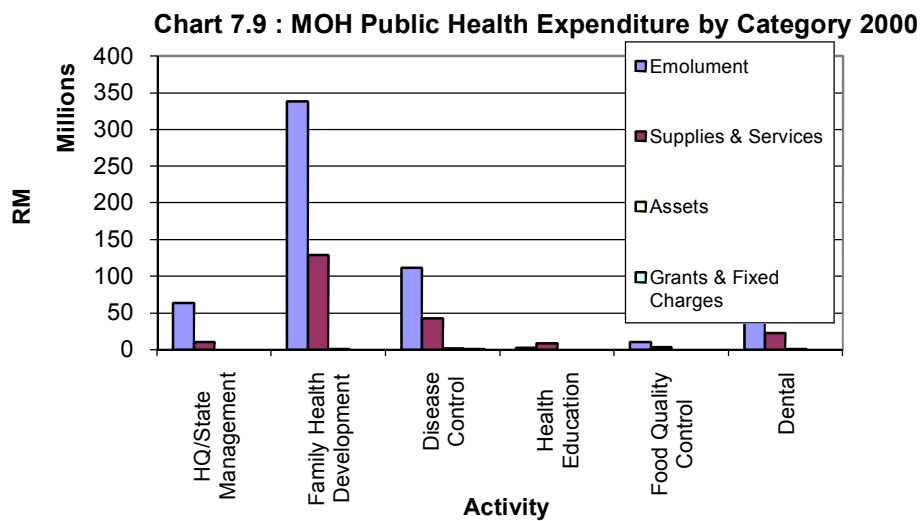


**Table 7.16: Public & Private Health Manpower Mix Per Population Ratio 2000**

Manpower Mix		Public	Private	Total
Doctor	No.	8 410	7 209	15 619
	Pop. Ratio	1: 2 766	1: 3 227	1: 1 490
Dentist	No.	750	1 394	2 144
	Pop. Ratio	1: 31 021	1: 16 690	1: 10 851
Pharmacists	No.	434	1 899	2 333
	Pop. Ratio	1: 53 609	1: 12 252	1: 9 972
Nurses	No.	23 255	7 874	31 129
	Pop. Ratio	1: 1 000	1: 2 955	1: 747
Rural Nurses/Midwives	No.	7 507	204	7 711
	Pop. Ratio	1: 3 099	1: 114 050	1: 3 017

Source: Ministry of Health Annual Report 2000

Charts 7.9 and 7.10 give a clearer picture of the input mix for the delivery of services by actual expenditure. Among the public health programmes, all the activities depended on manpower resources more than supplies and services especially for family health development and dental care services.



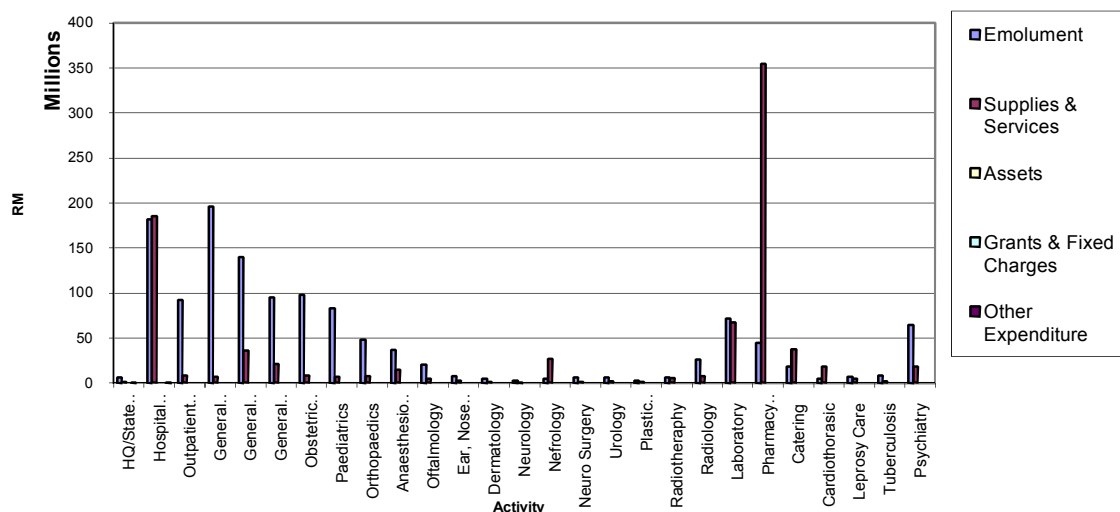
**Table 7.17: Programmes' Actual Expenditure by Emolument and Supplies and Services 2000**

<b>Management</b>	Emolument	Supplies & Services	Emolument/Supplies
HQ/State Management	27,543,550	24,404,612	1.13
Human Resource	24,524,517	947,565	25.88
Finance	4,636,488	88,799,178	0.05
Manpower Planning & Training	42,548,901	31,017,860	1.37
<b>Sub Total</b>	<b>99,253,456</b>	<b>145,169,215</b>	<b>0.68</b>
<b>Public Health</b>			
HQ/State Management	63,670,458	9,922,170	6.42
Family Health Development	338,264,873	128,776,844	2.63
Disease Control	111,634,715	42,179,800	2.65
Health Education	2,565,420	8,868,093	0.29
Food Quality Control	10,424,685	3,025,555	3.45
Dental	114,823,286	22,542,391	5.09
<b>Sub Total</b>	<b>641,383,437</b>	<b>215,314,852</b>	<b>2.98</b>
<b>Medical Care</b>			
HQ/State Management	6,136,403	992,520	6.18
Hospital Management	181,745,499	185,178,024	0.98
Outpatient Care	92,449,450	7,776,137	11.89
General Inpatient Care	195,815,059	6,545,274	29.92
General Medicine	139,944,859	35,936,631	3.89
General Surgery	95,404,949	20,601,244	4.63
Obstetric and Gynaecology	98,237,079	8,119,667	12.10
Paediatrics	82,799,624	6,969,777	11.88
Orthopaedics	47,928,140	7,148,532	6.70
Anaesthesiology	37,108,101	14,702,037	2.52
Oftalmology	20,543,282	4,497,892	4.57
Ear, Nose and Throat	7,678,447	2,033,001	3.78
Dermatology	4,556,217	981,891	4.64
Neurology	2,382,119	53,300	44.69
Nefrology	4,667,515	26,444,787	0.18
Neuro Surgery	5,933,650	1,235,702	4.80
Urology	6,233,254	1,594,064	3.91
Plastic Surgery	3,017,881	807,994	3.74
Radiotherapy	6,056,638	4,884,051	1.24
Radiology	26,154,662	7,229,817	3.62
Laboratory	71,696,919	66,791,283	1.07
Pharmacy and Supplies	44,287,181	354,482,271	0.12
Catering	18,354,528	36,892,330	0.50
Cardiothoracic	5,130,271	17,924,667	0.29
Leprosy Care	6,710,504	4,527,483	1.48
Tuberculosis	8,577,431	1,509,663	5.68
Psychiatry	64,437,214	17,708,942	3.64
<b>Sub Total</b>	<b>1,283,986,875</b>	<b>843,568,980</b>	<b>1.52</b>
<b>Technical Support/Professional</b>			
Service Management			
HQ/State Management	3,497,667	665,967	5.25
Pharmacy	12,807,909	5,143,455	2.49
Research	12,528,457	4,170,220	3.00
Planning and Development	3,563,672	653,074	5.46
Engineering	2,789,604	549,633,992	0.01
<b>Sub Total</b>	<b>35,187,308</b>	<b>560,266,708</b>	<b>0.06</b>
<b>New Policy</b>			
Mgt. & Training Improvement		1,479,760	
PH Services Improvement		25,999,359	
Medical Services Improvement		27,448,256	
Research & Eng.Improvement		407,972	
Projects To Be Completed	4,095,717	11,470,795	0.36
<b>Sub Total</b>	<b>4,095,717</b>	<b>66,806,141</b>	<b>0.06</b>
<b>One Offs</b>			
Acquisition of Assets			
<b>Grand Total</b>	<b>2,063,906,797</b>	<b>1,831,125,900</b>	<b>1.13</b>

Source: Public Accounts 2000, Accountant General, Malaysia

Only in health education was the expenditure on supplies more than manpower. It is understandable as it is more efficient to have more supplies in terms of educational materials to send information across a vast spread of the population than to have individuals educating the public on health. However, the expenditure spent on supplies for health education was too minimal to bring about a substantial impact on the public about improving personal health. Although the impact may not be seen immediately, in order to create a healthy lifestyle the message must be delivered to the public continuously. Most primary and secondary care services depended more on human resources for the delivery of their services but for tertiary care, expenditure was greater for supplies and services rather than manpower except for neurology. Whether this was an effective mix of inputs may not be easily determined. Primary care and secondary care spent more on manpower as these services require a very large volume of allied health personnel than specialised professionals. Tertiary care on the other hand was more specialised and required more sophisticated equipment for diagnosis and treatment, therefore more expenditure on supplies and services were required.

**Chart 7.10 : MOH Medical Care Expenditure By Activity 2000**



## *2.2 Three states compared*

In order to analyse how efficient the Malaysian public health system has been in the distribution of its resources, a comparison will be made among the various states. Three states have been selected to represent three different demographic and socioeconomic status of the states instead of going through all 14 states. Penang was chosen to represent the more affluent state with 80 percent of its population as urban dwellers. Kelantan on the other hand represented the poorer state with 66 percent of its population living in rural areas. Negeri Sembilan represented the middle with almost equal urban and rural population, that is, 53 percent urban and 47 percent rural. See Table 7.18. In terms of population, Kelantan had 1.5 million people, Penang had 1.3 million people and N.S. had 830,080 people but density-wise, Penang had 1,274 persons per square kilometre, the highest among the three states, Kelantan, the lowest with only 87 persons per square kilometer and Negeri Sembilan with 129 persons per square kilometre.

Although Kelantan had the largest population, the state was only given RM206.4 million which was 4.9 percent of the total MOH recurrent budget but Penang was apportioned a higher amount with RM240.3 million or 5.7 percent of the total budget whereas Negeri Sembilan was given RM178.5 million or 4.24 percent. The breakdown of the allocation by programmes demonstrated that the given proportion commensurated with the urban and rural mix. For Kelantan, from the total recurrent allocation, RM70.2 million or 34.03 percent were allocated for the public health programme which was primarily the rural health service and understandably, Penang on the other hand had slightly more than half of what Kelantan had, RM37 million or 15.41 percent of the state recurrent budget.

Negeri Sembilan represented what was the national mean as to the proportion given to the public health and the medical programme. Penang was given a higher allocation for medical care instead amounting to RM151 million or 62.8 percent of the state recurrent allocation whereas for Kelantan, the amount given was only RM97 million or 47 percent of the state recurrent budget.

The distribution of the different mix of the recurrent allocation by programme of the three different states showed that allocation was planned to meet the needs of the state based on its population's socioeconomic status. Generally, it seemed to be a fair distribution because the proportion was not equal across the board in order to meet the different needs of the population whether they were more urban or more rural. However, in terms of per capita allocation, Negeri Sembilan was the highest among the three at RM215.09 per capita and this indicated some allocative inefficiency when the allocation and expenditure was contrasted against the utilisation of the services. Among the three states, Negeri Sembilan has the lowest utilisation rates: admission was only 76,283 compared to Penang 88,188 and Kelantan 93,141; bed occupancy was the lowest at 54.9 percent compared to Penang 58.8 percent and Kelantan 58.7 percent; total patient days was also the lowest at only 286,778 while Penang had 432,710 and Kelantan 346,831; daily average of admission was also the lowest at only 191 while Penang and Kelantan had on average 241 and 256 admissions daily respectively.

**Table 7.18: Comparing Three States: Penang, Kelantan and Negeri Sembilan 2000**

<b>Population</b>	<b>Penang</b>	<b>Kelantan</b>	<b>Negeri Sembilan</b>
Population	1,259,400	1,522,200	830,080
Percentage of Urban Population	80.10%	34.20%	53.40%
Percentage of Rural Population	19.90%	65.80%	46.60%
No. of persons per sq. km.	1,274	87	129
<b>Allocation</b>			
Operating Allocation	240,345,949	206,409,470	178,539,227
% to Total MOH Operating Allocation	5.70	4.90	4.24
Management	6,141,487	8,028,500	11,544,990
% to Total State Operating Allocation	2.56	3.89	6.47
Public Health	37,027,700	70,249,124	42,279,687
% to Total State Operating Allocation	15.41	34.03	23.68
Medical	150,955,276	97,068,600	103,806,950
% to Total State Operating Allocation	62.81	47.03	58.14
Support Services	32,464,580	20,818,800	20,907,600
% to Total State Operating Allocation	13.51	10.09	11.71
New Policy/One Off	13,756,906	10,264,446	
% to Total State Operating Allocation	5.72	4.97	
Recurrent Allocation per capita	190.84	135.60	215.09
<b>Expenditure</b>			
Operating Expenditure	240,843,095	213,707,043	177,919,297
% to Total State Operating Allocation	100.21	103.54	99.65
Management	6,394,136	8,136,734	10,084,447
% to Total Programme Allocation	104.11	101.35	87.35
Public Health	36,684,771	74,522,443	41,959,669
% to Total Programme Allocation	99.07	106.08	99.24
Medical	152,731,719	100,694,284	105,525,643
% to Total Programme Allocation	101.18	103.74	101.66
Support Services	32,404,424	20,690,019	20,349,538
% to Total Programme Allocation	99.81	99.38	97.33
New Policy/One Off	12,628,045	9,663,564	
% to Total Programme Allocation	91.79	94.15	
Recurrent Expenditure per capita	191.24	140.39	214.34

<b>Hospital</b>	<b>Penang</b>	<b>Kelantan</b>	<b>Negeri Sembilan</b>
No. of MOH Hospital	5	8	5
No. of Beds	2,011	1,614	1,327
No. of Admission	88,188	93,141	76,283
Bed Occupancy Rate	58.8	58.7	52.6
Total Patient Days	432,710	346,831	286,778
Average Cost Per Inpatient Per Day	352.97	290.33	367.97
Average Length of Stay	4.9	3.7	3.4
Daily Average No. of Admission	241	256	192
Turnover Interval of Days	3.4	2.6	3.4
No. of Hospital Outpatient Attendance	543,249	319,203	453,659
No. of Specialists Unit Attendance	335,437	118,330	203,908
Percentage to Total Outpatient Attendance	61.75	37.07	44.95
No. of A & E Attendance	207,812	200,873	249,751
Percentage to Total Outpatient Attendance	38.25	62.93	55.05
Average No. of Patient Treated in Hospital	631,437	412,344	529,942
Average Medical Cost Per Patient	107.17	244.20	199.12
No. of Acute Bed Per 1,000 Population	1.3	1.1	1.5
No. of Hospital Beds Per 1,000 Population	1.54	1.23	1.54
<b>Public Health Facilities</b>	<b>Penang</b>	<b>Kelantan</b>	<b>Negeri Sembilan</b>
No. of Health Clinics	29	58	39
Percentage to MOH Total Health Clinics	3.44	6.88	4.63
No. of Rural Clinics	62	199	103
Percentage to MOH Total Rural Clinics	3.22	10.34	5.35
No. of Public Health Facilities	104	307	147
Total No. of Outpatient Attendance	1,359,374	1,595,926	334,978
Average Public Health Care Cost Per Person	26.99	46.70	125.26
Rural Clinic Per Rural Population Ratio	1:4,197	1:4,348	1:3,885
Health Centres Per Population Ratio	1:45,090	1:22,671	1:22,023
<b>Private Facilities</b>			
No. of Private Hospitals	23	2	7
No. of Private Beds	1,644	63	177
No. of Admission	103,736	3,027	9,264
No. of Non MOH Beds	0	716	12
Total MOH, NonMOH and Private Beds	3,655	2,393	1,516
Bed Population Ratio	1:358	1:549	1:567
<b>Health Personnel in MOH</b>			
No. of Post for Doctors	623	147	426
No. of Post for Doctors Filled	356	92	335
Percentage Filled	57.14	62.59	78.64
No. of Post for Nurses	1,480	754	1,126
No. of Post for Nurses Filled	1,474	671	1,116
Percentage Filled	99.59	88.99	99.11
No. of Post for Assistant Nurse	628	191	517
No. of Post for AN Filled	245	155	281
Percentage Filled	39.01	81.15	54.35
No. of Post for Midwife	99	145	82
No. of Post for Midwife Filled	90	128	79
Percentage Filled	90.91	88.28	96.34
Doctor Population Ratio	1:1,077	1:1,567	1:1,284
<b>Health Indicators</b>			
Crude Birth Rate	21.0	17.2	20.5
Crude Death Rate	5.8	1.1	4.2
Stillborn Rate	5.1	8.5	6.1
Infant Mortality Rate	6.0	9.4	5.9
Toddler Mortality Rate	0.2	3.8	1.1
Maternal Mortality Rate	0.1	0.6	0.3
Perinatal Mortality Rate	8.7	12.2	9.9
Neonatal Mortality Rate	4.9	5.2	4.7
<b>Immunisation Coverage</b>			
BCG for Infants	99.4	99.0	78.0
Polio for Infants	95.4	98.9	97.9
Measles for Infants	87.3	91.4	94.8
DPT 3rd Dose for Infants	96.1	98.2	98.0
Hepatitis B 3rd Dose for Infants	92.3	96.7	93.4
<b>Environmental Health</b>			
Rural population covered by safe water supply	99.7	76.3	
Rural population covered by sanitary latrines	99.7	97.5	106.3

Source: Annual Report for Department of Health Penang, Kelantan and Negeri Sembilan for year 2000.

Dividing the total medical care recurrent expenditure by the total patient days, Negeri Sembilan had the highest average cost per inpatient per day at RM376.97 while Penang was at the cost of RM352.97 per patient and the lowest was Kelantan at RM290.33 per patient. Adding both the total number of inpatients and outpatients that were treated in all the state hospitals, the average cost per patient was quite different. For Penang the total number of inpatients and outpatients was 53.1 percent more than Kelantan; but the average cost per patient was only RM107.17 per patient compared to Kelantan where the cost was RM244.20, which was the highest among the three states. The cost per patient also included specialist unit attendances where Penang recorded the highest with 335,437 attendances, which was 61.75 percent of the total state hospital outpatient attendances. Kelantan on the other hand had more A&E attendances with 62.93 of the total state hospital outpatient attendances while Negeri Sembilan had 55.05 percent attendances in the A&E department.

Although it may seem that Penang was technically more efficient as far as hospital outpatient services were concerned with a high number of outpatient attendance and low cost per patient but on further analysis, Kelantan fared much better than Penang and Negeri Sembilan especially for inpatient care with a total of 93,141 number of admissions the highest among the three states, low turnover interval of days (2.6 days) and a fairly high bed occupancy rate with regard to the high number of daily admissions (256 per day) and the lowest medical care programme expenditure at only RM100.7 million among the three states compared to Penang RM152.7 million and Negeri Sembilan RM105.5 million. Penang being a more affluent state had higher attendance for specialist units compared to Kelantan and Negeri Sembilan. Kelantan on the other hand, being a more rural state



depended on public hospitals for A&E services rather than the private hospitals which could be rather catastrophic in terms of costs.

Kelantan had 1.1 acute beds per thousand populations, the least among the three and Negeri Sembilan had the highest at 1.5 acute beds per thousand population. However, in terms of total beds, Penang and Negeri Sembilan had the same number of hospital beds per thousand population and Kelantan still has the lowest at 1.23 beds per thousand population. As far as medical care services were concerned, Kelantan was not provided with sufficient resources for the workload in this programme. Although the bed occupancy rate was almost equal to Penang, their daily average number of admissions were 256 which was 6.2 percent higher than Penang and the turnover interval days were also shorter than both Penang and Negeri Sembilan which was only 2.6 days compared to 3.4 days.

Combining MOH beds, non-MOH beds and private beds, Penang had a total of 3,655 beds, Kelantan 2,393 beds and Negeri Sembilan 1,516 beds. However, in terms of bed to population ratio, Penang had the lowest with a bed for every 358 population, followed by Kelantan a bed for every 549 population and Negeri Sembilan a bed for every 567 population. Kelantan fared better than Negeri Sembilan this time with combined beds due to the large Science University Hospital (USM Hospital) with an additional 716 beds added to the state. Generally, Kelantan was still far behind from the national target of two acute beds per thousand population. Although Kelantan may have achieved much in terms of allocative efficiency compared to the other two states but when considered against the outcomes and the effectiveness of the medical programme, the result was not so encouraging. Although Kelantan's crude death rate was only 1.1 but for all the other

mortality rates, Kelantan had the highest. Infant mortality rate was the highest among the three states at 9.4 compared to Penang at 6.0 and Negeri Sembilan at 5.9, toddler mortality rate was also the highest among the three states at 3.8 and so was maternal mortality rate at 0.6, perinatal mortality rate at 12.2 and neonatal mortality rate at 5.2.

For the public health programme, Kelantan was allocated RM70.2 million or 34.03 percent of the state's recurrent allocation. It was not surprising that Kelantan had the highest number of health clinics and rural clinics compared to Penang and Negeri Sembilan. In Kelantan alone, there were 199 rural clinics which was equivalent to 10.34 percent of the total rural clinics in the country. Negeri Sembilan had 103 rural clinics and Penang had 104 rural clinics, which represented 5.35 percent and 3.22 percent of the country's total rural clinics. However, when comparisons were made in terms of rural population per rural clinic ratio, Negeri Sembilan had the lowest with a rural clinic for every 3,885 rural folks compared to Kelantan for every 4,348 and Penang for every 4,197. The rate was higher in Kelantan due to the higher proportion of rural population in the state.

Therefore, the large number of rural clinics in Kelantan was justified and fairly distributed to serve the large proportion of the rural population. The total number of outpatient attendances in Kelantan was also the highest compared to the two other states which was expected from a more rural state. Kelantan has 1.6 million outpatient attendances compared to Penang at 1.36 million and the lowest was Negeri Sembilan with only 334,978 outpatient attendances. The utilisation rate in Negeri Sembilan was the lowest among the three states but its public health allocation was more than what was

allocated to Penang. For Negeri Sembilan the distribution of budget did not consider the demand by the state by looking at the proportion of the population and their needs. The inefficiency was clearly shown by the highest public health care cost per patient at RM125.26 compared to Penang which was only RM22.99 and Kelantan was RM46.70.

In terms of population per health centre ratio, Penang had the highest with every health centre for every 45,090 population compared to the other two states for every 22,000 population. Although Penang had a much larger urban population and presumably wealthier, to pay for private care, looking at the utilisation rate of public health facilities both in the rural and urban areas with outpatient attendances of 1.36 million, public health care facilities in the state was insufficient. There were inadequate government urban polyclinics to cater for the large urban population. Penang had one doctor per 1,077 population which was the lowest among the three states and yet utilisation for government health facilities was high. This goes to show that a large proportion of the urban population preferred the almost free treatment in public health facilities than to pay for private care.

The public health programme for all states had brought about better immunisation coverage, especially for Kelantan where all the important vaccinations had above 90 percent coverage for the state. Penang also had very good coverage and so also for Negeri Sembilan except for BCG for infants which showed only 78 percent. The public health programme had brought effective results on the whole for all three states but the state that was most cost-effective and cost-efficient was Penang which had the best outcomes in terms of both the mortality rates and immunisation coverage as well as for environmental health where 99.7 percent of rural population was covered with safe water supply and

sanitary latrines. Penang was allocated RM37 million compared to Kelantan RM70.2 million and Negeri Sembilan RM42.3 million for public health programme yet Penang spent 99.07 percent of its allocation but Kelantan overspent by 6.08 percent of its allocation which was a huge RM4.3 million. The recurrent cost per patient in the public health facilities was also the lowest for Penang at RM26.99 per patient compared to Kelantan at RM46.70 and Negeri Sembilan at RM125.26 per patient.

In terms of private care, there were a very large number of admissions in private hospitals totalling 103,736 for Penang. This phenomena showed that for medical care services Penangites preferred to go for private hospital care. There was no increase in the number of public hospitals in Penang at least for the past 15 years; although the population had increased, a long waiting list is one of the factors that drew the people to private care. Furthermore, being an industrialised state with more urban population, the people were more willing to pay for better quality care with less waiting time and this has indirectly promoted the growth of private care in the state. For a small state like Penang to have 23 private hospitals with 1,644 beds also showed there was also a large group of private patients who could come not just from Penang alone but from the northern regions which seriously lacked private care, for example; Perlis had no private hospital at all and Kedah had 14 small private hospitals or maternity/nursing homes but only 379 private beds. The people from the northern region including northern Perak could utilise private health care in Penang which could be easily accessible for those who could afford and also for international patients coming from Indonesia and Thailand. Malaysia is one country that promotes health tourism through its private health care.

Health manpower supply for the three states reflected a highly inefficient allocation of manpower resources. Kelantan once again had the lowest deployment of doctors with only 92 doctors to fill 147 posts for the state. There was a marked shortage of manpower for a state like Kelantan. Doctor population ratio for Kelantan also reflected the shortage with one doctor for every 1,567 of population compared to one for 1,077 in Penang and one for 1,284 in Negeri Sembilan. For all the three states the Ministry only managed to fill 57.14 percent for Penang, 62.59 percent for Kelantan and 78.64 percent for Negeri Sembilan. Without an optimal input of manpower resources, even if many facilities were available there would not be quality care and an obvious long waiting time to see a doctor and so on. In the case of Kelantan more allied health personnel were needed for its basic primary care services in the rural areas. Looking at the percentage of nurses and midwives posts filled, it was only about 88-89 percent compared to Penang and Negeri Sembilan with over 90 percent filled, for both the posts. Therefore it was not a matter of replacing doctors with more allied health staff but a genuine shortage of manpower supply and also the unwillingness of staff to work in rural areas which caused the distribution of manpower supply to be very allocative inefficient. This shortage was also apparent in other more rural states like Sabah and Sarawak. Why the posts were not filled let alone to have more posts for the states had a lot to do with the wage system for health care personnel and poor manpower planning.

Although not all the posts are stated in Table 7.18, what is there show a wide discrepancy in terms of the number of manpower that should be allocated to each state. For example, Penang had planned to have 628 posts for assistant nurses which was only 39 percent filled, Negeri Sembilan was to have 517 posts for assistant nurses but only 54.35

percent was filled whereas Kelantan only planned to have 191 posts and 81.15 percent was filled. Kelantan was allocated only 147 posts for doctors and 754 posts for nurses which were only 62.59 percent and 88.99 percent filled respectively. In the case of doctors, Penang had 623 posts and Negeri Sembilan 426 posts whereas Kelantan was to have only 147 posts. For nurses, Penang had 1,480 nurses' posts and Negeri Sembilan had 1,126 nurses' posts but Kelantan was to have only 754 posts. Penang and Negeri Sembilan, both states with a lower population than Kelantan, which were allocated more posts for both doctors and nurses showed that manpower planning did not take into consideration size of the population.

Although the government vigorously pursued equity goals the comparison of these three states show that distribution of resources were not optimal and in the Kelantan case, there were more health facilities but not enough manpower. In the case of Penang, being a more urban state, the need of the urban population was neglected and for Negeri Sembilan which represented the mean, did not show that resources were optimally allocated which was not based on need.

### ***2.3 Is the health system well planned, organised and managed to meet its objectives?***

In order to understand whether the Malaysian public health system was well planned and organised, the budgeting system in MOH has to be looked into first, which is discussed below. From the analysis done both in Chapter 6 and this chapter, one of the main problems faced was the unavailability of data of the breakdown of cost of different inputs and outputs by health facilities and this was largely attributed to the budgeting

system that was adopted and the way budgeting was done in MOH across the different levels of care.

Before 1973, the MOH was using the traditional or line budget but since 1973, the MOH implemented the Planning, Programming and Budgeting System (PPBS) as the government operations were becoming more complex. PPBS was a bottom-up system and it was further improved and modified for better implementation, monitoring and evaluation of programmes and thus Modified Budgeting System (MBS) was introduced in 1990 and it started a pilot of nine structured programmes and activities. However, MBS was reduced to four programmes and was implemented fully by 1994. This changeover was a directive from the Treasury and MOH was chosen as one of the three government agencies to implement this system.

The difference between PPBS and MBS was that PPBS used the bottom-up approach where the process of budget preparation began at the district level and progresses up to the Ministry level and then finally to the Treasury. On the other hand, MBS follows a top-down approach where the upper level management at the ministry level would delegate authority through a programme agreement to the lower level management at the state or institutional level and they would in turn delegate the authority further down to the operational managers at the district level on negotiated terms. The allocation of funds was

done through an expenditure target<sup>313</sup> which is agreed upon based on the programme agreement<sup>314</sup>.

MBS is based on four main programmes, namely, management, public health, medical and technical and support programmes. From these main four, at the operational level are 42 activities. See Table 7.19. The MOH is divided into three levels of responsibility centres (RC) and each RC manager will be responsible for achieving performance of programmes under his charge with a specific allocation of funds. See Table 7.20. Any output that is outside a certain established variance or range will require an exception report in which reasons for inconsistent performance must be stated and what remedy action is to be taken. The principle behind this MBS system is to let the managers manage and this gives more authority, flexibility and discretion for the lower RC managers to make their day-to-day operational decisions where the outputs are delivered. This method of budgeting has its advantages in terms of flexibility but the measurement of its input costs are based on aggregate cost of programmes and output is based on quantitative output indicators.

Common support services for example, laboratory, pharmacy and radiology are budgeted on an aggregated basis and expenditure on these services is not accrued to individual departments in a hospital or to a specific rural clinic which makes unit costing very difficult. Furthermore, consumables and drugs are purchased centrally and how much

---

<sup>313</sup> An expenditure target is a specific amount of fund provided to each ministry/department at the start of the budget process to which the existing policy budget submissions must comply.

<sup>314</sup> The programme agreement sets the level of performance that should be achieved in the fiscal year with the allocation given. A programme agreement includes information on inputs, outputs and impacts.



is actually allocated to a department or rural clinic is not monitored or tracked. The returns submitted from the lower RC to the upper RC are all based on aggregated amounts and the upper RC at the ministry level does not know the actual amount spent by the lower RC at the third level. Thus, estimates of unit cost are not readily available and this is frustrating to any cost studies. In planning resources for any health care system down to the lowest level of care will certainly require information such as consumables and drugs that are used by certain facilities which can be of different sizes and workloads. Inability to get such information poses a serious planning and management failure because aggregate figures do not give the true picture of the expenditure accrued to that particular activity. This can be one of the reasons why no hospital in Malaysia has ever been closed down because of the lack of such evaluation to indicate whether a facility is operating efficiently to continue its operations or otherwise.

<b>Programmes</b>	<b>Activities</b>
1. Management	1.1 Headquarters and State Management 1.2 Human Resource 1.3 Finance 1.4 Human Resource Planning and Training
2. Public Health	2.1 Public Health Management Headquarters and State 2.2 Basic Health Care and Family Development 2.3 Disease Control 2.4 Health Education 2.5 Food Quality Control 2.6 Dental
3. Medical Care	3.1 Medical Management Headquarters and State 3.2 Hospital Management 3.3 Outpatient Care 3.4 General Inpatient Care 3.5 General Medicine 3.6 General Surgery 3.7 Obstetric and Gynaecology 3.8 Paediatrics 3.9 Orthopaedics 3.10 Anaesthesiology 3.11 Ophthalmology 3.12 Ear, Nose and Throat 3.13. Dermatology 3.14 Neurology 3.15 Nephrology 3.16 Neuro Surgery 3.17 Urology 3.18 Plastic Surgery 3.19 Radiotherapy 3.20 Radiology 3.21 Laboratory 3.22 Pharmacy and Supply 3.23 Food and Kitchen 3.24 Hospital Engineering 3.25 Leprosy Care 3.26 Tuberculosis 3.27 Psychiatry
4. Technical Support / Research Services Management	4.1 Technical Support Services Management/ Research Headquarters and State 4.2 Pharmacy 4.3 Research 4.4 Planning and Development 4.5 Engineering

The change in the budgeting system is to make the management more efficient but it lacks the most important part which is monitoring and checking the performance against allocation at unit level for better cost management. There are a few marked weaknesses in the system which makes planning and management of the health system difficult. One of which is the technicality of the budgeting system. At the beginning of the year, an

expenditure target is given to every state based on what has been agreed upon and approved by the Treasury and Cabinet on a lump-sum basis.

<b>Table 7.20: MOH Responsibilities Centres</b>		
<b>Responsibility Centre First Level</b>	<b>Responsibility Centre Second Level</b>	<b>Responsibility Level Third Level</b>
Ministry Headquarters	Management Division	Minister's Office Senior Management General Management Human Resource Unit International Unit Internal Audit Finance Unit Legal Advisor's Office Public Relations Unit Information Technology Centre
	Human Resource Division	Service 1 Service 2 Service 3 Service 4 Posting
	Finance Division	General Finance Budget Budgeting System Acquisition and Privatisation Revenue Accounts
	Training and Human Resource Planning Division	General Office
	Planning and Development Division	General Office Information and Documentation Unit
	Pharmacy and Supply Division	General Office
	Medical Division	General Office Malaysian Medical Council Malaysian Optic Council
	Health Division	General Office
	Engineering Division	General Office
	Dental Division	General Office

	Planning & Development (Special)	Special Unit
State Health Director's Office	All State Health Directors' Offices	All Unit or Activity/ Sub-activity under a particular Programme
	All Hospitals	
	All District Health Offices	
	All Deputy Directors' Offices (Dental)	
	State Store	
	Training Schools	
	Hospital Bahagia (Mental Hospital)	
	Hospital Permai (Mental Hospital)	
	National Leprosy Control Centre	
	National Tuberculosis Centre	
Kuala Lumpur Hospital Public Health Institute Vector Control Director's Office National Pharmaceutical Control Bureau Federal Territory Director's Office Penang Dental Training School		All Unit or Activity/ Sub-activity under a particular Programme

Operating allocation is not directly based on past years' historical precedent but only what is given the previous year plus any additional expenditure for any new policy which will be determined by the programme head at the ministry level minus any one-off expenditure that is no longer required plus a certain percentage of increase for inflation. The programme heads themselves do not put up any budget but they review the budget of the previous year and make the necessary changes if any addition or subtraction is needed.

The decision for allocation is not based on any time trend research but rather on what is the current expenditure. The only time trend studies done if at all is the current monthly expenditure submitted by the states. There is also no evaluation done on the results of the programme or what has been achieved. Without any measurement on job costing or unit costing, the element of evaluation and measurement is very weak and almost non-existent.

In the middle of the year, there will be a midterm review on the budget and should there be any shortage, for example, drugs, extra supplementary funds will be given upon request. The purpose of this midterm review is to inform the programme heads how the funds have been managed and spent. There is a poor link between the programme heads and the managers at the state level because the state directors are given the authority to make any adjustment to the distribution of the funds under the system to let managers manage but what is adjusted is not known to the programme heads. Devolution of authority allows flexibility and greater autonomy to the lower level managers but the way the system is done also brought about fragmentation in the health system. The headquarters at the Ministry level has little control over what the state is doing.

The control that the headquarters have over the states is to hold back the expenditure or payment warrants. Warrants can also be withdrawn upon the decision of the programme head. This is also one way of controlling the funds should there be any insufficient funds. The budget division of the Ministry is responsible for issuing these warrants to the states. The headquarters always hold back some funds to meet any shortages of funds or as supplementary funds for any emergency expenditure. The way in

which the funds are controlled not only fragments the system but it can curb the flow of funds where decision is made at the state level.

At the state or ground level, technical officers, for examples, epidemiology officers will use reports and collect data on the output which will be submitted to the programme head. At the ministry level, all submissions by the states will be compiled and produced as an aggregate output at the national level. The programme heads will work out their own weighting based on the requirement at the local level. Therefore, for the same output, the expenditure can vary drastically. The weakness of the system is that all expenditure is based on activity codes, for example, thirty types of different diseases can be all lumped into a single code, so there is no way to capture the actual costing or expenditure for a certain disease.

The Ministry came out with a system in 1992 known as the micro accounting system which should be able to measure the different costing of each unit of output and worked out per patient costing but the system ran into some management problems and could not come out with the output costing as planned. Therefore, up to now, there was no costing of outputs for every state. This inefficiency is also due to the poor mechanism of recording. Recording is very incomplete as there is no proper listing, no proper recording and even if there is some recording, there is no mechanism to channel this recording to the right source for evaluation. The system is there but there is nobody to monitor. These failures show a gross inefficiency in the administration system and a grave management problem. What is available is the general costing based on activity codes and no breakdown to any unit cost which makes comparison difficult among different units.

The different levels of management also make the transfer of information difficult and together with the confidentiality of the allocation of funds to the different states make the system more fragmented. Each state does not know and is not supposed to know what other states are getting from headquarters, even the programme heads themselves do not know how much each state is getting or how much the headquarters is keeping for emergency expenditure. Even among the different levels within the state, each RC from a different district does not know how much the other district is getting from the allocation or even among the health clinic level except for the RC above who controls and monitors the payment of the funds. From the lowest level, the records will be compiled and aggregated at the next level and so on until they reach the national level. If a particular RC requires certain information or records, they will have to request from the RC concerned. Most of the published records are national aggregated records or data and it will be of no use to anyone who wants to study unit costing or costing of a particular facility. In the budgeting system how the budget is done is how it will be reported.

In conclusion, the system of budgeting has not changed in principle whether it was the old PPBS or the new MBS system which is based on programmes. This was inherited from the colonial system of management, and is still done today. Therefore it is not surprising that the organization of the Ministry is also based on programmes. At the very top level in MOH, the programme heads leading each programme for the whole country will make decisions for their own respective programme and there is not much assimilation and digesting of each other's information and data for a better understanding of the need and requirements which can complement or work against each other's programme.

The organization is very vertical oriented and does not have much of horizontal liaison. Most government organizations if not all, are based on such form of management and organization. Each is very protective of his/her line of work and more so if the allocation of funds is based on such lines or programmes. The system does not provide an integrated approach that will look across activities and programmes which will provide a better understanding for evaluation and measurement which are required for the system to improve efficiency.

Any evaluation of efficiency has to be linked to costs of inputs and outputs at the least. As far as the management of the Malaysian public health system is concerned, the failure lies with the inability to measure the output and use this measurement to evaluate the efficiency and the effectiveness of the allocation given. Furthermore, the poor recording mechanism has opened doors to much misuse of funds that is not accounted for, as recording is incomplete and in most cases based on aggregated figures which can easily cover up any unnoticed extravagant spending. Fragmentation of the system has also restricted information from one level to another for proper and effective planning. Even for the programme agreement submitted by each level of RC to the next level, the reporting is done in a very general manner and it is not required to spell out the costing of each input and output.

The budgeting and its management have contributed to the inefficiency of the system but the biggest problem still lies with the behaviour and the attitude of those involved in the management of the system. Another area of poor planning can be seen in the management of development expenditure.



Development expenditure is for every five years and it is very straight forward. The planning is based on a five-year period and the expenditure is determined by the economy of the country. As long as the economy is growing strongly the government will not hold back any funds but should there be a recession, funds will be slow and projects are brought forward to the next year and so on. Most projects are based on a standard turnkey model, for example, a standard type of clinic or hospital may be easier for the management but may not necessarily meet the requirements of the population in a particular area. Most of these development projects are politically planned rather than to meet the demand for the facility. Therefore, these projects meet the equity goals more than the efficiency goals. The resources planning for any new project is not planned together but when a particular project is about to be completed, managers both at the headquarters and the state level will then start planning on how many human resources are required and what equipment are to be put in and so on.

### **3. Conclusion**

The expenditure patterns showed that out of the five main programmes of the MOH, the public health programme was technically more efficient than the medical programme. There were more outpatient attendances in the public health facilities than in hospital facilities. The costs invested in the public health programme were much lower for the input of resources and the output in terms of utilization. However, in analyzing the activities in the public health programme, there was some allocative inefficiency where activities such as health education and disease control, had relatively little allocation compared to family health development. Furthermore, with the dwindling rural population, it would not be

allocatively efficient to continue pumping money into the family health programme unless the focus was shifted to the urban population as clearly shown in the comparative study that urban areas were not given the due resources to meet the demand as shown in the previous chapter.

Within the medical programme, the two highest spenders were engineering services and pharmacies and supplies. Interestingly, these two activities had their services privatized which contributed to the high expenditure. The government intended privatization to improve efficiency, but in terms of cost efficiency they did not fare well. The IJN experience also showed that corporatisation was not equitable where private paying patients were given priority and it created some inequity in terms of waiting time as shown in this chapter.

On the whole, the increase in medical programme expenditure did not commensurate with the utilization rates which had reduced compared to the previous years, and the low bed occupancy rate testifies to the low rate. Yet, the government is continuing with building more hospitals which would further accentuate the existing inefficiency. Within the medical programmes, the wide variations in terms of resource inputs and resource mix were allocatively inefficient when the cost per patient were examined.

The analysis of the three different states based on socio-economic status showed that health expenditure was proportionately allocated based on the rural-urban mix in the population and this seemed to be fair and equitable. However, on closer analysis, in terms of per capita allocation, the evidence showed that it was not allocatively efficient. There

was a wide variation in terms of cost per patient among the three states. The health outcomes related to socio-economic status also varied and allocation did not appropriately address the health needs of the population. For example, there were insufficient urban government clinics to cater for the large urban population in Penang.

The distribution of health manpower in the three states showed that it was not allocatively efficient as shown in the doctor population ratio. Overall, there was no appropriate matching of human resources with the physical resources and the utilization rates as well as the changing demographic situation of the different states. Targeting should be based on income linked to socio-economic status rather than rural-urban differences.

From the analysis above, efficiency as an objective to the health system has not been achieved. Firstly there were no deliberate and vigorous efforts on the part of managers in the public health care system to do so. There were a lot of weaknesses in the budgeting process. There was some devolution of authority which allowed for flexibility and more autonomy but it also created fragmentation of the system. The budgeting system itself was weak as it did not provide for unit costing which made evaluation difficult. The way the management of the budgeting system was done clearly showed that as long as there were funds available, expenditure and justification for spending continued to be unabated, depending on the economic climate of the country.

## CHAPTER EIGHT

### 1. Conclusions - Report card on the Malaysian public health system

Historically, the development of the Malaysian public health care system has been one that has evolved gradually, shaped by the colonial masters before Independence. The Malaysian government inherited a centralised state-controlled model of public health from the British which laid the foundations for the post-colonial development of the Malaysian health care system. Besides the legacy of a heavily centralized public administration, the British also left behind a very inequitable distribution of medical and health services between the rural and urban areas and among the different states and regions.

The post-colonial government recognized the imbalances that existed in the distribution of health care resources but it was not until the occurrence of the 1969 racial riots that the government took a serious stand to rectify this inequity. The NEP was then implemented as a national policy to eradicate poverty, namely to elevate the poor especially the *bumiputeras*, to higher income levels and to restructure the unbalanced Malaysian society. The health sector became instrumental to indirectly raise income levels of the poor through the provision of subsidised health care to the population at large.

Health policies were broadly stated in the five-year development plans and strictly adhered to the overall national objectives. Improving coverage for health care services was seen as an equity goal to be pursued. From the review of all the five development plans since Independence, the Malaysian-defined equity objectives have been the main thrust and

priority for the last 50 years. The Malaysian public health sector has followed the aspirations and the objectives of the NEP very closely. The government took vigorous steps in promoting this goal through expansion of medical and health services to the rural areas. This rural coverage was almost synonymous with public health care in Malaysia. Targets were set to improve coverage and allocation of resources to population ratios.

The thinking behind this expansion was very much rooted in the developmental policies of the country whose main aim was to promote equity by its association with race. Ultimately, it was all about raising the economic status of the *bumiputeras* and enriching them in whatever way possible to compete with the *non-bumiputeras* who were considered economically more advanced. The intention of the government was clearly spelled out in the OPP1, OPP2 and the latest OPP3. Both the NEP and the NDP were the engines to achieve this goal. The latest NVP also followed the aspiration to increase the sustainability of the *bumiputeras*. Therefore, from the outset, public health care in Malaysia has placed a lot of emphasis on improving the rural health services in order to contribute to the wellbeing of the rural population who are predominantly the *bumiputeras*.

Central to the objective of the NEP is to eradicate poverty and health is seen as a means of elevating the living standard of the poor especially in rural areas, as health services were offered free or at a very nominal cost. The NHMS II (1996) showed that health facilities were within reach of all Malaysians. With regard to physical access, Malaysia has done remarkably well and the national objective of expanding the coverage of health care facilities to the rural areas has been achieved to a very large extent, except for the sparsely populated areas in Sabah and Sarawak. Coverage is only one component of

equity of access which is accessibility in physical terms. Besides this, other aspects of equity such as equity in terms of affordability, quality and utilization are also equally important which were not pursued to the same degree.

In the Malaysian context, the meaning of equity has been narrowly defined. The MOH's interpretation of equity seemed to have the moral elements of social justice and fairness but it is confined to equity of access to health care services, namely, geographical access and cost access.<sup>315</sup> Resources and facilities were distributed in such way that every Malaysian is to have equal opportunity to access health care when they want to seek care and services are available to all regardless of income.

In order to focus on the needs of the population with different social characteristics, it is not poverty alone but also class, gender, ethnic origin, geography, age and other specific parameters which stand out as important in particular communities or which the communities themselves raised as important.<sup>316</sup> For example, being inaccessible should also include the ability of service personnel to communicate with ethnic minority groups or for the health workers to be sympathetic to their needs. A lot of emphasis was given to focusing on the poor in the rural areas and minority groups in Sabah and Sarawak and *Orang Asli* in the health plans but they did not specify the health needs of these population groups. In the latest 9MP (2006-2010)<sup>317</sup> it stated that eradicating poverty means programmes targeted at specific impoverished groups, including pockets of urban and rural poor, *bumiputera* minorities in Sabah and Sarawak and *Orang Asli*, but there was no further

---

<sup>315</sup> Policies in Health, MOH, July 1999 pg.13.

<sup>316</sup> Barker, 1996, pg. 122

<sup>317</sup> Ninth Malaysia Plan, 2006, pg. 34.

probe into who the urban and rural poor are or where they are located, and what special health care needs they may have. The same goes for the minority groups in Sabah and Sarawak and the *Orang Asli*.

The health expenditure patterns were shown to have fulfilled the aspirations of the national development priorities as far as the distributional objectives are concerned, largely through expenditure in infrastructure development. The heavy emphasis on infrastructure development purportedly to meet equity goals is historical in origin and politically driven. This was because infrastructure development would mean more money to be spent but such spending may not commensurate with the actual health needs. The health system was initially responsive to the needs of the nation to correct the imbalances that existed and the distributive means were allocatively efficient but as the country developed, new challenges emerged which the health system failed to meet. The development of the health system ran parallel with the economic growth of the country but lacked the capacity to respond to the changing needs and conditions.

On paper, the distribution of health infrastructure looks equitable, purportedly to distribute income across races and to correct the imbalances that existed but on careful analysis, the system was not aligned to the latest economic development trends of the country although it followed the national development objectives. The continuous blind pursuit of narrow equity objectives for the last 50 years since Independence was not sensitive and responsive to the changing environment. Even in the 9MP, equity is again mentioned as the basis of the creation of a truly developed Malaysian society, as it states that “while economic growth and dynamism must be vigorously pursued, gross disparities

in economic and opportunities and livelihood must not be allowed to persist and to jeopardise the very foundation of national development”.<sup>318</sup>

Therefore it is not surprising that the findings demonstrate that throughout the thirty-year period under study, the government was investing heavily in the pursuit of this form of equity which only concentrated on the development of physical infrastructure – the “hardware” of the system and it caused the MOH expenditure to be increased 27 fold for the period from 1970 to 2000. Both operating and development expenditure have increased 26.7 times and 52.6 times respectively for the same period. Besides building new facilities, the government was also upgrading services through purchases of sophisticated high technology medical equipment in attempting to improve quality care. This pursuit has turned out to be very costly and if less than the desired health outcomes are achieved, the system can be technically inefficient and not cost effective.

Therefore, the essence of the NEP and NDP has been translated into spending mainly on development as far as the health sector is concerned. The equity goal was perceived in terms of expenditure on infrastructure development. No doubt the high growth rate of the Malaysian economy has accentuated the increase in spending for health but high spending does not necessarily mean better health care. The central argument here is not about how much to spend but how it is spent by the government.

So far the Malaysian health care system has addressed mainly horizontal equity but not vertical equity. Meeting equity goals on physical access may be allocatively more

---

<sup>318</sup> Ninth Malaysia Plan. 2006, pg. 4.



efficient. However, too much emphasis on equity that is narrowly defined along racial lines will lead to allocative inefficiency. Although the government is seen to be the main provider of health care for the population at large, there will always be strong pressures from certain groups on the government to continue to subsidise substantially those who cannot afford health care. The fact that the government took such a long time to decide on a new health service financing scheme in recent years was evident of the political pressures in the health system. It will be politically difficult for the government to retreat from the responsibility of providing health care to a section of the public which has been receiving subsidized health care for so long.

Furthermore, subsidising everyone without targeting is inefficient and has created greater inequity. In order to improve vertical equity by income groups, this would require targeting of subsidized services. The government subsidizes 98 percent of public health care costs in the country. At the end of the NEP period and the start of the NDP, the government was slowly feeling the pinch due to the rising health care costs. Besides government health care costs, health care per capita had also risen substantially from 1970 to 2000. Although the government was building more hospitals and clinics, which were incurring very heavy expenditure, not all these expansions were able to deliver the services to the targeted populations as shown in the big differences in the workload of different health facilities. There is thus a need to seriously review the under-utilized health facilities and their performance amidst the new challenges facing the health sector.

Although poverty in Malaysia declined substantially from 22.8 percent in 1990 to 5.7 percent in 2004, there is a widening of the rural and urban income ratio to 1:2.11 in

2004 compared with 1:1.70 in 1990. Rural poverty remained high especially in Sabah, Terengganu and Kelantan.<sup>319</sup> On one hand, the Malaysian population has become increasingly urbanized and educated with an expanding middle income group, and yet on the other hand, there are still considerable income and wealth inequalities due to persistent disparities in inter- and intra-ethnic distribution as well as between the rural and urban incomes, and between the less developed and more developed regions.<sup>320</sup> This was the same scenario prior to Independence.

The heavily subsidized health system was equitable in the earlier periods when incomes were low and disparities were wide. However, when incomes increase and society becomes more affluent, equity principles would need to be reexamined in the light of the new challenges for optimum performance of the system. The government can continue to maintain subsidies for the needy but over-subsidizing the higher-income population can affect the performance of the system and render it allocatively inefficient.

Whilst efficiency is a predominant criterion in the resource allocation processes, it is usually not the one favoured by politicians or policy makers.<sup>321</sup> This is one of the reasons why the pursuit of efficiency as stated in the Malaysian health plans were presented in very broad terms. There were no specific targets to ensure that efficiency of the system was produced, unlike the equity objective where specific targets were set. Very broadly, MOH's interpretation of efficiency emphasize that health services are to be effective,

---

<sup>319</sup> Ninth Malaysia Plan. 2006, pg. 10.

<sup>320</sup> *ibid.*, pg. 4.

<sup>321</sup> Kontodimopoulos N, Nanos P, Niakas D *Health Policy*, March 2006; 76(1):49-57.

<sup>321</sup> Frenk J., *Health Policy*; 27 (1994):19-34.

appropriate and should result in good outcomes.<sup>322</sup> It also means consolidating health services resources in order to ensure optimum utilization and cost-effectiveness.

The WHO's interpretation of efficiency on the other hand compares actual attainment with the system's potential to achieve more with the same resources. A number of WHO regional consultations have recommended that "performance" should be redefined<sup>323</sup> to include the entire range of activities from measuring goal attainment to the efficiency of input use and to the way the system is functioning.<sup>324</sup> With this refinement, efficiency does not only mean what inputs are used to attain goals but how well the inputs are utilized. The process of achieving efficiency includes streamlining of capital investment, regulation of improper use of high cost technologies and revision of incentives for health care providers.<sup>325</sup>

The expenditure patterns have shown that the public health programme in Malaysia was more cost efficient than the medical programme. The Malaysian integrated approach in the public health programme appears to be an efficient system with a multidisciplinary approach to promote the well-being of the population, which includes health promotion, immunization, health screening, nutritional diet, etc. There were higher outputs in terms of utilization as shown in the increased outpatient attendances in the public health facilities as compared to hospital facilities, but the programme was allocated much lower input of resources compared to the medical programme. The medical programme took up an

---

<sup>322</sup> Health in Malaysia – Achievements and Challenges, pg.12.

<sup>323</sup> According to WHO, efficiency is called "performance" in the World Health Report 2000.

<sup>324</sup> Murray CJL & Evans BE, 2003, pg. 10.

<sup>325</sup> Tangcharoensathien V, Lertiendumrong J, The Lancet, December 2000; 356(1001):S31.

average of 60 percent of the total health budget with fewer patients. In year 2005, the bed occupancy rates (BOR) for Peninsular Malaysia was 67.4 percent, Sabah 57.14 percent and Sarawak 51.98 percent<sup>326</sup> respectively, and yet a total of 22 hospitals were built with 14 new hospitals and eight replacement hospitals during the 8MP.<sup>327</sup> This demonstrated that the health system did not place much emphasis on the pursuit for efficiency as compared to equity objectives.

Furthermore, with the dwindling rural population, it was not allocatively efficient to continue to invest health resources in the rural areas. The latest demographic indicators for year 2007 show that the urban population is now 63 percent and rural population 37 percent.<sup>328</sup> Expenditure for health programmes and even development of health facilities should now be shifted to the urban population but the findings show that urban public health services were very much neglected.

The findings of this thesis also clearly demonstrated that some of the national policies in privatization and corporatisation have turned out to be very cost-inefficient. Privatisation in the health sector in Malaysia has increased costs of health care and created much inequity in terms of access as demonstrated in the case of the IJN. Privatisation in many countries has become part of a political agenda.<sup>329</sup> Privatisation in essence is to inject some market environment into the public sector so that services can be more responsive to real needs of the consumers, and more competition to reduce costs and provide better

---

<sup>326</sup> MOH Annual Report 2005, pg. 161.

<sup>327</sup> Ninth Malaysia Plan, 2006, pg. 418.

<sup>328</sup> MOH Annual Report 2005, pg. 11.

<sup>329</sup> Barker, 1996, pg. 151.

quality and efficiency which is lacking in the public sector. However, this does not seem to be the case in Malaysia, where concession agreements of 15 years definitely do not promote competition and being monopolies with such long tenure of contracts, will hardly improve quality and efficiency. As shown in the earlier chapters, the privatization of the five support services and the pharmaceutical supplies did not bring about reduction in costs but rather increase in costs. The privatization of IJN has created more inequity than before through longer waiting times for different groups of patients and higher prices to the public who are not under the subsidized groups like the civil servants.

If the measurement of efficiency is based on the WHO's five health systems goals as reported in the World Health Report 2000, a health system should also be responsive to popular expectations such as respect for individuals (autonomy and confidentiality) and client orientation (prompt service and quality of facilities). Evidence of long queues and congestions in the urban health facilities compared to the under-utilised rural health facilities reflects the inefficiency as well as inequity of the system. The Malaysian health system has over-emphasised physical access without due regard for efficiency, and inefficiency has perpetuated inequity in terms of utilisation and differential quality.

Many have claimed that the development of the Malaysian health care system is a success story. WHO has ranked Malaysia number 31 out of 191 countries in terms of responsiveness according to the health system criteria by distribution or level of care.<sup>330</sup> In the Malaysian context, responsiveness in terms of distribution is about meeting the equity goal rather than the efficiency goal, although the distributive objective from the WHO's

---

<sup>330</sup> WHO, 2000, pg.184.

perspective includes allocative efficiency. According to Mooney, the more we work for equity, the greater is the risk that we will lose a degree of efficiency in the way health services are offered.<sup>331</sup> For example, in Sabah and Sarawak, costly flying doctor services are provided to meet a handful of patients is not efficient but it meets the equity objective to reach the marginalized group in the remote areas. There is a requirement for some form of trade-offs between efficiency and equity. The right balance will thus have to be considered in the light of all new challenges and the real needs of the population.

In conclusion, the Malaysian health system has not fully achieved allocative efficiency in the distribution of resources and has shortcomings in its performance on technical and cost efficiency, although it has done reasonably well in its national distributive objective of equitable access to health resources. The continuous pursuit of the equity objective of more coverage through infrastructure development finally reached a stage where it was no longer allocatively efficient for the system. The lesson learnt from this study of the development of the Malaysian health care system is that overspending on equity goals can lead to allocative inefficiency and perpetuation of cost inefficiency as well as technical inefficiency. When these inefficiencies increase, the system will reverse itself to being inequitable in other forms.

## **2. Discussion – Limitations of the system**

### ***2.1 Human resources for health***

---

<sup>331</sup> Mooney G H, *Effective Health Care*, 1983; 1(4): 179-184.

One of the issues that have been plaguing the Malaysian health system was the issue of insufficient health manpower, yet the expenditure pattern for personnel did not show that the government was serious in resolving the problem of lack of manpower. The low expenditure on salary and services also indicated that money was not put into the main functions of delivery and quality care – the “software” of the system. In the Malaysian case, investments were concentrated on infrastructure development rather than human resources and the provision of services. The shortage of manpower has not only affected the quality of the service provided but also led to serious inefficiency in the system.

Shortage of manpower has been a problem even before Independence. The pattern is the same throughout the thirty-year period under study and the problem has not been resolved even until today. Providing additional resources may be expedient but the unbalanced distribution of health manpower resources aggravates the problem further. In 2005, the doctor population ratio was 1: 396 for Kuala Lumpur on one end and 1:2,719 in Sabah on the other end.<sup>332</sup>

Recognising manpower as a crucial element of resources for the health sector is an issue that needs the special attention of policy makers. The development of health manpower involves firstly appropriate incentives, proper and adequate training, opportunities for career advancement and more importantly, due recognition and rewards for performance. On a more macro level, the education system would need to be revamped and public attitudes towards professions in the health sector have to be improved among the younger generation. According to the MOH 2005 Annual Report, as of 31<sup>st</sup> December

---

<sup>332</sup> Ninth Malaysia Plan, 2006, pg. 421.

2005, only 84.6 percent of the total MOH posts were filled which is 133,816 out of 158,127 posts. Out of this, for medical specialists, only 39.9 percent of the posts were filled and 41.0 percent for dentist specialists were filled. Nursing posts however, were 95.3 percent filled.<sup>333</sup> In the Malaysian case, the bureaucracy and restrictions in the recruitment exercise, and the rigid pay schemes for all civil servants do not help to attract more qualified applicants in the health sector.

It was not until 1<sup>st</sup> December 2006 that MOH allowed government doctors and dentists to practice locum<sup>334</sup> outside office hours. In August 2007, MOH piloted the Full Paying Patient Scheme<sup>335</sup> in two government hospitals which allowed patients to choose their own specialists and they are required to pay full fee for the services and treatment received. Specialists who participate in this Scheme are reimbursed for their services rendered, based on a proportion that is fixed by the Government from the fees paid by the patients. Since this project is in its pilot stage, it is still too early to evaluate the success of this Scheme to stop the brain drain of government specialists to the private sector. These two policies are seen to be more lucrative than previous initiatives. However, the main problem with the manpower issue is meritocracy and the reward system which is not based on performance. The literature is rich on country experiences on how to tackle this issue, including financial and non-financial incentives. There is an acute need for more objective evaluation of performance and better financial incentives and other non-financial reward systems. Above all, the priority of human resources for health must have a more prominent

---

<sup>333</sup> MOH 2005 Annual Report, pg. 20.

<sup>334</sup> MOH Secretary General's Circular Letter No. 5 Year 2006

<sup>335</sup> Fee Order (Medical)(Full Paying Patient) 2007 was gazetted on 16<sup>th</sup> July 2006



place on the political agenda with full commitment to a comprehensive human resource development programme in the public health sector.

## ***2.2 Planning and policy process***

Policy and plans will only remain as official statements, if no effective action is taken to implement them. According to Barker, at the heart of health care reform is the notion that “better management” is the recipe.<sup>336</sup> In the Malaysian case, health planners failed to develop workable strategies to make policies happen in practice. In most of the health plans, there was no time frame by which plans or targets must be achieved and the process by which resources were allocated did not allow for change but faithful following of the historically incremental and politically acceptable method. One of the weaknesses in the planning-budgeting process is that the current planning is based on inputs and the budgeting system is based on outputs and the system is not able to link between inputs and outputs, and to account for fluctuations in budget requirement. The micro accounting system has not been able to bridge the gap between cost and productivity.

As demonstrated in the growing health budget, Malaysia does not seem to be lacking in financial resources. In the budgeting process, should there be a need for additional allocation there is an existing avenue under the mid-term review of the budget by which additional allocation can be given with justification. An exception is the occasional austerity drive to cut down costs, but even so when the economy recovers, this is compensated for, as shown in the 1980s and 1990s economic downturns. Therefore, the

---

<sup>336</sup> Barker, 1996, pg. 5.

problem appears to lie in the management of the system and its processes, which includes planning, budgeting, implementation and evaluation.

### ***2.3 Lack of data and resources***

There is also a serious lack of disaggregated data that can be made available for further research and analysis. Different data sources give different aggregated data and time-trend studies are not often valid. More could have been done in the analysis if the data was available for indicators such as distribution by race, income and gender. However, beginning this year, MOH is embarking on piloting “gender budget analysis” in MOH<sup>337</sup>, which is an initiative that will optimize government expenditure towards target groups based on gender, and to plan programmes and activities which are gender-sensitive.

As shown in the earlier chapters, the private sector is playing an increasing vital role in the Malaysian health system with the increasing number of private health facilities and rates of utilisation over the last decade. However, prior to the Private Healthcare Facilities and Services Act 1998 and its regulations which were enforced on 1<sup>st</sup> May 2006, MOH did not have a complete record of all existing private health facilities. The implementation of the 1998 Act and its regulations provided for a systematic data collection of all private healthcare facilities which are required registration by law. Any review of a country’s health system must take the private sector into account, which is very lacking in the

---

<sup>337</sup> The author presented a paper on “Implementing Gender Budgeting in Malaysia with Particular Reference to Ministry of Health, Malaysia” at the Regional Conference on Gender Mainstreaming at Renaissance Hotel Kuala Lumpur on 7-8 May 2007.

Malaysian case. As shown in all the five year plans, very little is mentioned about the development of the private sector and its contribution to the health sector.

### **3. Recommendations**

In principle, the Malaysian government health care system has not changed much. It is still a very centralized model, politically driven and faithfully keeping its commitment to fulfill national objectives. The health policy fits in very well with national development policy, fulfilling political and social objectives, but falling short of health economic objectives. In view of the changing environment and amidst new challenges, there should be further evaluation of past policies and more refined analyses to inform the planning for future needs and demand arising from an increasingly affluent, educated and ageing Malaysian society.

The pursuit of equity objectives in response to new social forces such as the dwindling rural population, a more urbanized lifestyle, and a demand for higher quality care will have to be properly considered in the future planning and balanced development of the public and private health sectors. Rising health care costs have forced many countries to reconsider their own equity goals - how long more will the Malaysian health system continue to emphasize on coverage and equitable distribution of physical resources amidst new challenges and within the new environment? As has been shown, such pursuit does not promote efficiency goals. One of the main reasons why countries all over the world are seeking alternative financing is to lessen the government's burden in the consumption of public resources. The heavily subsidized health system was equitable in

the earlier periods when incomes were low and disparities were wide. However, when incomes increase and the society becomes more affluent, equity principles would need to be re-examined in the light of the new challenges for optimum performance of the total system.

The future direction for policy studies of the Malaysian health system must include more health economics research at the micro level which is very much lacking presently, due to the unavailability of primary disaggregated data such as unit costs and health outcomes which would be useful in econometric measurements for further measurements of equity and efficiency. There is a need to re-define and broaden the measurement of equity in Malaysia and not just continue with blind acceptance of the government's out-moded definition. It is recommended that equity and efficiency goals based on objective criteria should go beyond resource allocation from the supply side as in the Malaysian case to measurements on the demand side. Data such as measurements on the health needs of the targeted population based on disease burden, epidemiological trends, health outcomes, income levels, capacity to pay, consumption levels and utilisation rates are important to distinguish between the healthy and the less healthy, the poor and the better off, those who should be subsidized and those who should pay full fees. Such variables will impact the development of the health system and are highly recommended for future development and better performance of the Malaysian health care system.

National development objectives cannot be applied in its current form without appropriate modifications in the Malaysian health system. From the findings, the future development of the health system will not only have to be concerned with equity goals in

terms of the new challenges but more importantly, the efficiency goals in terms of allocation and utilization of resources. Future growth and reform of the Malaysian health system will have to address the issues of cost-efficiency and cost-effectiveness in its performance.

SCOPE OF PRIMARY HEALTH CARE SERVICES PROVIDED AT A POLYCLINIC

Activities under curative (primary medical care)

1. Treatment of acute conditions (most common form of OPD services)
2. Chronic disease management
3. Management of mental illness including psycho-social rehabilitation
4. Accident and emergency (A&E) consisting of simple A&E cases and also stabilizing the patient before referring to the hospital
5. Curative oral/dental health care

Activities in disease prevention and control

1. Infectious disease surveillance
2. Control of TB, malaria, leprosy, filariasis and any other locally endemic infectious diseases
3. Prevention and control (including treatment) of HIV/AIDS; and Prostatr activities
4. Diabetes control project
5. Hypertension control project
6. ARI (Acute respiratory illness) project
7. Asthma control project
8. Blindness prevention project
9. Injury prevention
10. Smoking cessation
11. Cancer control (other than breast and cervical cancer screening)
12. Promotion of oral health

Activities under reproductive health (maternal and child health) services

1. Antenatal, intranatal and postnatal care
2. Newborn, infant and child health
3. School health
4. Nutrition
5. Family planning
6. Early detection of breast cancer
7. Early detection of cervical cancer
8. Home care nursing

Activities under “expanded” scope of PHC

1. Early detection and management of children with special needs
2. Community mental health
3. Health of adolescent
4. Health of older people (community gerontology)
5. Workers/occupational health
6. Rehabilitative services

## Bibliography

1. Abel Smith B. (1963) Paying For Health Services: a study of the costs and sources of finance in six countries. World Health Organisation, Geneva.
2. Abel Smith B. (1992) Cost Containment and New Priorities in Health Care. Avebury, Ashgate Publishing Ltd., Aldershot.
3. Abel Smith B. (1994) An Introduction to Health: Policy, Planning and Financing. Longman, London and New York.
4. Abel Smith B. and Mach E.P. (1983) Planning the Finances of the Health Sector: a manual for developing countries. World Health Organisation, Geneva.
5. Abel Smith B.(1993) Cost Containment in Health Care & Value for Money in Health Care. Two Public Lectures Delivered as Lee Kuan Yew Distinguished Visitor. National University of Singapore, 5-18 December 1993.
6. Abel Smith B. "Global perspective on health service financing." Social Science and Medicine, 1985; 21(9):957-63.
7. Abel Smith B. "The world economic crisis. Part 1: repercussions on health." Health Policy and Planning, September 1986; 1(3):202-13.
8. Abel Smith B. "The world economic crisis. Part 1: health manpower out of balance." Health Policy and Planning, December 1986; 1(4):309-16.
9. Abel Smith B. "Health insurance in developing countries: lessons from experience." Health Policy and Planning, September 1992; 7(3):215-26.
10. Abu Bakar S. (1995) Agenda for Health Care Reform in Malaysia. Paper presented at the conference of Health Care Planning and Development: Agenda for Seventh Malaysia Plan, 1995.
11. Abu Bakar S. Issues for the Future Health System: Vision 2020, Vision for Health, Mission for MOH, Corporate Culture and Goals of the Health System of the Future. Ministry of Health, Malaysia. January 2001.
12. Abu Bakar S and Rohaizat Y. (2002) "Effective Utilisation of Health Resources During Current Economic Situation: Ministry of Health Experience." in Syed Mohamed A & Nabilla Al Sadat AM. (Eds.) (2002) Health Economics Issues in Malaysia. University of Malaya Press.
13. Abu Bakar S. "Agenda for Health Care Reform in Malaysia." Paper presented at the Conference on Health Care Planning and Development: Agenda for the 7<sup>th</sup> Malaysia Plan, 1955.

14. Abu Bakar S, Lye MS, Rohaizat Y, Teoh SC, Mymoon A. "Impact of the East Asian economic crisis on health and health care: Malaysia's response." Asia Pacific Journal of Public Health, 1998; 10(1): 5-9.
15. Abu Bakar S. "Telehealth: the backbone of healthcare financing." Studies of Health Technology Informatics, 2004; 104:182-90.
16. Abu Bakar S. "The untapped potential of Telehealth" International Journal of Medical Informatics, May 2001; Vol. 61, Issues 2-3:103-112.
17. Adams OB, Hirschfeld M. "Human resources for health – challenges for the 21st century." World Health Statistics Quarterly, 1998; 51(1):28-32.
18. Aday LA, Begley CE, Lairson DR and Slater CH. (1998) Evaluating the Healthcare System: effectiveness, efficiency and equity. Health Administrative Press, Chicago, Illinois, USA.
19. AG, Public Accounts 1970. Accountants General, Malaysia.
20. AG, Public Accounts 1971. Accountants General, Malaysia.
21. AG, Public Accounts 1972. Accountants General, Malaysia.
22. AG, Public Accounts 1973. Accountants General, Malaysia.
23. AG, Public Accounts 1974. Accountants General, Malaysia.
24. AG, Public Accounts 1975. Accountants General, Malaysia.
25. AG, Public Accounts 1976. Accountants General, Malaysia.
26. AG, Public Accounts 1977. Accountants General, Malaysia.
27. AG, Public Accounts 1978. Accountants General, Malaysia.
28. AG, Public Accounts 1979. Accountants General, Malaysia.
29. AG, Public Accounts 1980. Accountants General, Malaysia.
30. AG, Public Accounts 1981. Accountants General, Malaysia.
31. AG, Public Accounts 1982. Accountants General, Malaysia.
32. AG, Public Accounts 1983. Accountants General, Malaysia.
33. AG, Public Accounts 1984. Accountants General, Malaysia.



34. AG, Public Accounts 1985. Accountants General, Malaysia.
35. AG, Public Accounts 1986. Accountants General, Malaysia.
36. AG, Public Accounts 1987. Accountants General, Malaysia.
37. AG, Public Accounts 1988. Accountants General, Malaysia.
38. AG, Public Accounts 1989. Accountants General, Malaysia.
39. AG, Public Accounts 1990. Accountants General, Malaysia.
40. AG, Public Accounts 1991. Accountants General, Malaysia.
41. AG, Public Accounts 1992. Accountants General, Malaysia.
42. AG, Public Accounts 1993. Accountants General, Malaysia.
43. AG, Public Accounts 1994. Accountants General, Malaysia.
44. AG, Public Accounts 1995. Accountants General, Malaysia.
45. AG, Public Accounts 1996. Accountants General, Malaysia.
46. AG, Public Accounts 1997. Accountants General, Malaysia.
47. AG, Public Accounts 1998. Accountants General, Malaysia.
48. AG, Public Accounts 1999. Accountants General, Malaysia.
49. AG, Public Accounts 2000. Accountants General, Malaysia.
50. Ahmad Idriss. (1990) Malaysia's New Economic Policy. Pelanduk Publications, Kuala Lumpur.
51. Ali Abul Hassan S. (1992) The National Health Plan. Health Master-Planning and Financing Towards 2020. The 1992 National Health Care Conference- Health Care and Vision 2020. Ming Court Hotel, Kuala Lumpur, 2-3 November 1992.
52. Almeida C, Travassos C, Porto S, Labra ME., "Health sector reform in Brazil: a case study of inequity." International Journal of Health Services, 2000; 30(1):129-62.
53. Alwan A, Hornby P. "The implications of health sector reform for human resource development." Bulletin of World Health Organisation, 2002; 80(1): 56-9.

54. Appleby J. (1992) Financing Health Care in the 1990s. Open University Press, Buckingham.
55. Asian Development Bank. (1997) Project Performance Audit Report on the Health Services Development (Sector) Project (Loan No. 815-Mal) in Malaysia. Aril 1997, Asian Development Bank.
56. Ataul Huq (Pramanik) (1994) Malaysia's Economic Success. Pelanduk Publications.
57. Baker TD. (1988) "Planning Health Facilities." in Reinke W. (Ed.) Health Planning for Effective Management.
58. Balasubramaniam K. (1997) National Health Insurance and Financing: The International Scene and Foreign Models. Consumers International, Regional Office for Asia and Pacific, Penang. Paper was presented at Seminar on the Future of Health Services in Malaysia organised by MMA with the cooperation of EPU and MOH, Malaysia.
59. Barker C. (1996) The Health Care Policy Process. Sage Publications, London.
60. Barraclough S. "Constraints on the retreat from a welfare-orientated approach to public health care in Malaysia" Health Policy, April 1999; 47(1):53-67.
61. Barraclough S. "The growth of corporate private hospitals in Malaysia: policy contradictions in health system pluralism." International Journal of Health Services, 1997; 27(4):643-59.
62. Bayer R., Caplan A.L. and Daniels N. (Eds.) (1983) In Search of Equity – Health Needs and the Health Care Systems. Plenum Press, New York and London.
63. Beenstock M. (1980) Health, Migration and Development. London Business School. Gower Publishing Co. Ltd.
64. Bean JR. "National healthcare spending in the U.S. and Japan: national economic policy and implications for neurosurgery." Neurologia Medico-Chirurgica Tokyo, 2005 Jan; 45(1):18-24.
65. Berman P. "Health sector reform: making health development sustainable." Health Policy, April-June 1995; 32(1-3):13-28.
66. Berman P. "Organisation of ambulatory care provision: a critical determinant of health system performance in developing countries." Bulletin of World Health Organisation, 2000; 78(6):791-802.
67. Bin Juni MH. "Public health care provisions: access and equity." Social Science

- & Medicine, 1996 September; 43(5):759-68.
68. Birdsall N. "Thoughts in Good Health and Good Government." In Sutton FX (Ed.) A World to Make: Development in Perspective. Transaction Publishers, News Brunswick & London.
  69. Blendon RJ, Kim M, Benson JM. "The public versus the World Health Organisation on health systems performance." Health Aff. (Millwood), 2001 May-June; 20(3):10-20.
  70. Bloom G. "Equity in health in unequal societies: meeting health needs in contexts of social change." Health Policy, September 2001; 57(3):205-24.
  71. Bodenheimer T. "High and rising health care costs. Part 1: seeking an explanation." Annals of Internal Medicine, 17 May 2005; 142(10): 847-854.
  72. Bodenheimer TS and Grumbach K. (1995) Understanding Health Policy: A Clinical Approach. First Edition. Appleton & Lange, Stamford, Connecticut.
  73. Bolnick HJ. (1997) "The American Experience : A Health Care Reform Odyssey" in Tan TM and Chew SB. (Eds.) (1997) Affordable Health Care: Issues and Prospects. Prentice Hall, Singapore.
  74. Bossert T, Hsiao W, Barrera M, Alarcon L, Leo M, Casares C. "Transformation of ministries of health in the era of health reform: the case of Colombia." Health Policy and Planning: 13(1):59-77.
  75. Brooks R. (1985) "Efficiency in Health Care" in Long AF and Harrison S (Eds.) (1985) Health Services Performance – Effectiveness and Efficiency. Croom Helm. London, Sydney, Dover, New Hampshire.
  76. Broomberg J. "Managing the health care market in developing countries." Health Policy and Planning, September 1994; 9(3):237-51.
  77. Brown P. "WHO to revise its method for ranking health systems." British Medical Journal, 2002; 324:190.
  78. Brundtland GH, Frenk J, Murray CJL. "WHO assessment of health systems Performance." The Lancet, 21 June 2003; 361(9375):2155.
  79. Buchan J. "Health sector reform and human resources: lessons from the United Kingdom." Health Policy and Planning: 15(3):319-325.
  80. Buehler JW, Holtgrave DR. "Challenges in defining an optimal approach to formula-based allocations of public health funds in the United States". British Medical Council Public Health, 2007 Mar 27; 7:44.

81. Calnan M, Cant S and Gabe J. (1993) Going Private: Why People Pay for their Health Care. Open University Press, Buckingham.
82. Carr-Hill RA. "Efficiency and equity implications of the health care reforms." Social Science & Medicine, November 1994; 39(9):1189-201.
83. Castro-Leal F, Dayton J, Demery L & Mehra K. "Public spending on health care in Africa: do the poor benefit?" Bulletin of the World Health Organisation, 2000; 78(1):66-74.
84. Chan PC. "Time-cost relationship of public sector projects in Malaysia." International Journal of Project Management, May 2001; 19(4):223-29.
85. Chan CK. (1996) "Health Care Financing" in Jomo KS and Ng Siew Kiat (Eds.) Malaysia's Economic Development: Policy and Reform. Pelanduk Publication, Kuala Lumpur.
86. Chan CK. The Welfaristic State under Duress: Global Influences and Local Contingencies in Malaysia. Workshop on Health Care in Malaysia, 9-11 September 2004. Asia Research Institute, National University of Singapore.
87. Chang WC. "The meaning and goals of equity in health." Journal of Epidemiology and Community Health, 2002; 56:488-91.
88. Chee HL. (1990) "Changing Patterns of Physical Health in Malaysia: Implications for the Health Care Sector" in Cho Kah Sin & Ismail Muhd Salleh (Eds.) Caring Society: Emerging Issues and Future Directions. Selected Papers From the First National Conference on the Caring Society, Kuala Lumpur, Malaysia December 5-6, 1990. Institute of Strategic and International Studies (ISIS), Malaysia.
89. Chee HL. (1995) Amidst affluence: a study of an urban squatter settlement and its access to health care services. Institute of Advanced Studies, University of Malaya, Kuala Lumpur.
90. Chee HL. (1990) Health and Health Care in Malaysia. Present trends and Implications for the Future. University Malaya, Kuala Lumpur.
91. Chee S and Khoo SM. (Eds.) (1975) Malaysian Economic Development and Policies. Conference Proceedings Series No. 3, Malaysian Economic Association.
92. Chernichovsky D. "What can developing economies learn from health system reforms of developed countries?" Health Policy, April-June 1995; 32(1-3):79-91.
93. Choudhury MA. (1993) Comparative Development Studies: In Search of the World View. St. Martin's Press, New York.

94. Cochrane AL. (1972) Effectiveness and Efficiency : Random Reflections on Health Care. Nuffield Provincial Hospital Trust, London.
95. Collins C, Green A & Hunter D. "Health sector reform and the interpretation of policy context." Health Policy, April 1999; 47(1):69-83.
96. Consumers' Association of Penang. "Curing the sick or the rich? The rising cost of medical care in Malaysia. CAP Report, June 1983; No. 2.
97. Consumers' Association of Penang. (1983) Curing The Sick or The Rich? The Rising Cost of Medical Care in Malaysia. CAP Report Number 2, June 1983.
98. Coyne JS, Hilsenrath P. "The World Health Report 2000". American Journal of Public Health, January 2002; 92(1):30,32-3.
99. Creese AL. "User charges for health care: a review of recent experience." Health Policy and Planning, 1991; 6(4):309-19.
100. Crombie IK and Davies HTO. (1996) Research in Health Care: Design, Conduct and interpretation of Health Services Research. John Wiley & Sons, Chichester, United Kingdom.
101. Cumper GE. (1991) The Evaluation of National Health Systems. Oxford University Press, New York, Tokyo.
102. Cumper GE. (1983) "Economic Development, Health Services and Health." in Lee K and Mills A. (Eds.) (1983) The Economics of Health in Developing Countries. Oxford University Press.
103. Daly J, McDonald I and Willis Evan. (1992) Researching Health Care: Designs, Dilemmas, Disciplines. Routledge, London.
104. David Lim. (Ed.) (1975) Readings on Malaysian Economic Development. Oxford University Press, Kuala Lumpur.
105. David Lim. (1973) Economic Growth and Development in West Malaysia 1947-1970. Oxford University Press, Kuala Lumpur.
106. De Winter ER. "Are we ignoring population density in health planning? The issue of availability and accessibility." Health Policy and Planning, June 1992; 7(2):191-3.
107. Department of Health, Kelantan. Annual Report 2000.
108. Department of Health, Negeri Sembilan. Annual Report 2000.
109. Department of Health, Penang. Annual Report 2000.

110. Department of Information Services, Malaysia, The 1996 Budget. 1995.
111. Derose SF, Petitti DB. "Measuring quality of care and performance from a population health care perspective." Annual Review of Public Health; 24:363-84.
112. Drummond MF and Maynard A. (Eds.) (1993) Purchasing and Providing Cost-Effective Health Care. Churchill Livingstone, Edinburgh, London.
113. Drummond MF, Stoddart GL and Torrance GW. (1987) Methods for the Economic Evaluation of Health Care Programmes. Oxford University Press.
114. do Rosario Giraldes M. "Allocative efficiency in the use of health resources in Portugal" Journal of Public Health and Medicine, 1999 March; 21(1):55-9.
115. DOS, Social Statistics Bulletin Malaysia 2001. Department of Statistics, Malaysia. Putrajaya, February, 2002.
116. DOS, Social Statistics Bulletin Malaysia 1999. Department of Statistics, Malaysia. Putrajaya, November 1999.
117. DOS, Vital Statistics Time Series Malaysia 1963-1998. Department of Statistics, Malaysia. Putrajaya, October 2001.
118. DOS, Vital Statistics Malaysia (Special Edition) 2000. Department of Statistics, Malaysia. October, 2000.
119. DOS, Year Book of Statistics Malaysia 2000. Department of Statistics, Malaysia. September 2000.
120. Dunlop DW and Martins JM. (Eds.) (1995) An International Assessment of Health Care Financing: Lessons for Developing Countries. EDI Seminar Series. The World Bank, Washington DC.
121. Eastaugh SR. (1992) Health Economics: Efficiency, Quality and Equity. Auburn House, Westport, Connecticut & London.
122. Ellencweig AY. (1992) Analysing Health Systems: a modular approach. Oxford University Press, Oxford, New York, London.
123. EPU, Privatization Masterplan. Economic Planning Unit, Prime Minister's Department, Malaysia. 1991.
124. Evan DB, Tandon A, Murray CJ, Lauer JA. "Comparative efficiency of national health systems: cross national econometrics analysis." British Medical Journal, 2001 August 11; 323(7308):307-10.

125. Eyob Zere, Custodia Mandlhate, Thomas Mbeeli, Kalumbi Shangula, Kauto Mutira & William Kopenambili. "Equity in health care in Namibia: developing a needs-based resource allocation formula using principal components analysis". International Journal for Equity in Health, 2007; 6:3.
126. Faaland J, Parkinson JR and Saniman Rais. (1990) Growth and Ethnic Inequality: Malaysia's New Economic Policy. Hurst & Company, London. St. Martin's Press, New York.
127. Feachem RGA. "Health systems: more evidence, more debate." Bulletin of the World Health Organisation, 2000; 78(6):715.
128. Figueras J, McKee M, Cain J, Lessof S.(Eds.) (2004) Health systems in transition: learning from experience. European Observatory on Health Systems and Policies on behalf of World Health Organisation.
129. Fong Chan Onn. (1989) The Malaysian Economic Challenge in the 1990s: Transformation for Growth. Longman, Singapore.
130. Forsberg E, Axelsson R, Arnetz B. "Financial incentives in health care: the impact of performance-based reimbursement." Health Policy, December 2001; 58(3):243-62.
131. Frankel M. (1966) "Federal Health Expenditures in a Program Budget" in Norvick D. (Ed.) Program Budgeting : Program Analysis and the Federal Budget. Harvard University Press, Cambridge, Massachusetts.
132. Frenk J, Knaul F. "Health and the economy: empowerment through evidence." Bulletin of the World Health Organisation, 2002; 80(2):88.
133. Frenk J. "Dimensions of health system reform." Health Policy; 27 (1994):19-34.
134. Frenk J. "Comprehensive policy analysis for health system reform." Health Policy, April-June 1995; 32(1-3):257-277.
135. Frenk J. "The public/private mix and human resources for health." Health Policy and Planning, December 1993; 8(4):315-26.
136. Fuchs VR. (1986) The Health Economy. Harvard University Press, Cambridge, Massachusetts, London.
137. Fuchs VR. (1998) Who Shall Live? Health, Economics and Social Choice. (Expanded Edition). World Scientific, Singapore.
138. Fulop N, Allen P, Clarke A & Black N. (Eds.) (2001) Studying the Organisation and Delivery of Health Services: Research Methods. Routledge, Taylor and Francis Group, London and New York.

139. Ghosh BN & Mohammad Syukri Salleh. (1999) Political Economy of Development in Malaysia. Utusan Publication and Distributors Sdn Bhd. Kuala Lumpur.
140. Gilson L. "What is the future for equity within health policy?" Health Policy and Planning, 1989; 4(4):323-7.
141. Ghosh BN. (1998) Malaysia, The Transformation Within: Socioeconomic Perspective. Addison Wesley Longman Malaysia Sdn. Bhd., Malaysia.
142. Gravelle H, Jacobs R, Jones AM, Street A. "Comparing the efficiency of national health systems: a sensitivity analysis of the WHO approach." Applied Health Economics and Health Policy, 2003; 2(3):141-7.
143. Green A. "The state of health planning in the '90s." Health Policy and Planning, March 1995; 10(1):22-8.
144. Green A. (1994) An Introduction to Health Planning in Developing Countries. Oxford University Press.
145. Greene W. "Distinguishing between heterogeneity and inefficiency: stochastic Frontier analysis of the World Health Organisation's panel data on national health Care system." Health Economics, 2004 Oct; 13(10):959-80.
146. Griffin DC. "Welfare gains from user charges for government health services." Health Policy and Planning, 1992; 7(2):177-80.
147. Griffin C. (1992) Health Care in Asia: a comparative study of cost and financing. The World Bank.
148. Griffiths A and Bankowski Z. (Eds.) Economics and Health Policy. XIIIth CIOMS Round Table Conference. Council for International Organizations of Medical Sciences and the Sandoz Institute for Health and Socio-Economic Studies.
149. Griffiths A & Mills M. (1983) "Health sector financing and expenditure surveys." in Lee K and Mill A. (Eds.) The Economics of Health in Developing Countries. Oxford University Press.
150. Gordon Marnoch, Paul C S Lian. "Private medical practitioners and managed care in Malaysia: a survey of knowledge and attitudes held by Federal Territory based doctors." Social Science & Medicine, March 2002; 54(6):869-877.
151. Goottleb & Schieber G. Health Financing Revisited. World Bank, 2006.
152. Gullick J (1981) Malaysia: Economic Expansion and National Unity. Ernest Benn, London and Westview Press, Boulder, Colorado.



153. Gurmukh Singh. (1992) Redesigning, Planning and Equipping Hospitals of the Future What? Why? And How? The 1992 National Health Care Conference- Health Care and Vision 2020. Ming Court Hotel, Kuala Lumpur, 2-3 November 1992.
154. Haas R, Mahbob S and Tham SY. (Eds.) (1996) Health Care Planning & Development. Conference Proceedings. Friedrich Naumann Foundation, Singapore & Malaysian Institute of Economic Research, Malaysia.
155. Heller PS. (1976) A Model of The Demand For Medical and Health Services in West Malaysia. Centre For Research on Economic Development, The University of Michigan. Discussion Paper No. 62, October 1976.
156. Heller PS. (1975) Issues in the Costing of Public Sector Outputs: The Public Medical Services of Malaysia. University of Michigan and Centre for Research on Economic Development, June 1975.
157. Herm JR. (1999) Evaluation Report: The Seventh Malaysia Health Plan. Planning and Development Division, Ministry of Health, Malaysia. August 1999.
158. Humber JM and Almeder RF. (Eds.) (1994) Allocating Healthcare Resources. Biomedical Ethics Review 1994.
159. Hunt D. (1989) Economic Theories of Development: An Analysis of Competing Paradigms. Harvester Wheatsheaf, London.
160. IDS, Annual Report, Medical Care Sub-System 2000. Health Management Information System, Ministry of Health, Malaysia. January 2002.
161. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1985), Information and Documentation System Unit, Ministry of Health, Malaysia.
162. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1986), Information and Documentation System Unit, Ministry of Health, Malaysia.
163. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1987), Information and Documentation System Unit, Ministry of Health, Malaysia.
164. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1988), Information and Documentation System Unit, Ministry of Health, Malaysia.
165. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1989), Information and Documentation System Unit, Ministry of Health, Malaysia.

166. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1990), Information and Documentation System Unit, Ministry of Health, Malaysia.
167. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1991), Information and Documentation System Unit, Ministry of Health, Malaysia.
168. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1992), Information and Documentation System Unit, Ministry of Health, Malaysia.
169. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1993), Information and Documentation System Unit, Ministry of Health, Malaysia.
170. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1994), Information and Documentation System Unit, Ministry of Health, Malaysia.
171. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1995), Information and Documentation System Unit, Ministry of Health, Malaysia.
172. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1996), Information and Documentation System Unit, Ministry of Health, Malaysia.
173. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1997), Information and Documentation System Unit, Ministry of Health, Malaysia.
174. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1998), Information and Documentation System Unit, Ministry of Health, Malaysia.
175. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (1999), Information and Documentation System Unit, Ministry of Health, Malaysia.
176. IDS, Indicators for Monitoring and Evaluation of Strategy for Health for All by Year 2000 (2000), Information and Documentation System Unit, Ministry of Health, Malaysia.
177. Jacobs R, Smith PC, Street A. (2006) Measuring Efficiency in Health Care: Analytic Techniques and Health Policy. Cambridge University Press.

178. Jogindar S. Uppal. (1977) Economic Development in South Asia. St. Martin's Press, New York.
179. Jomo KS. (1990) Growth and Structural Change in the Malaysian Economy. MacMillan, Houndsmill, Basingstoke, Hampshire, London.
180. Jomo KS. (Ed.) (1995) Privatizing Malaysia: Rents, Rhetoric, Realities. Westview Press, Boulder, San Francisco, Oxford.
181. Jomo KS. (1999) "Development Planning in Malaysia: A Critical Appraisal" in Ghosh BN and Muhd Syukri Salleh (Eds.) Political Economy and Development in Malaysia. Utusan Publications & Distributors Sdn Bhd., Kuala Lumpur.
182. Jomo KS and Ng Siew Kiat. (Eds.) (1999) Malaysia's Economic Development: Policy and Reform. Pelanduk Publication, Kuala Lumpur.
183. Kakwani N, Wagstaff A & van Doorslaer E. "Socioeconomic inequalities in health: measurement, computation and statistical inference." Journal of Econometrics, March 1997; 77(1):87-103.
184. Kananatu K. "Healthcare financing in Malaysia." Asia Pacific Journal of Public Health, 2002; 14(1):23-8.
185. Kanavos P, Mossialos E. "International comparisons of health care expenditure: what we know and what we do not know." The Journal of Health Service Research and Policy, 1999 April; 4(2):122-6.
186. Kaplan GA, Lynch JW. "Is economic policy health policy?" American Journal of Public Health, 2001; 91(3):351-4.
187. Kaw BH. "Nipah virus outbreak in Malaysia." Journal of Clinical Virology, April 2003;26(3):265-75.
188. Kawabata K. "A new look at health systems." Bulletin of the World Health Organisation, 2000; 78(6):716.
189. Ke Xu. "Catastrophic health expenditure." The Lancet, 20 September 2003; 362 (9388):997.
190. Kirigia JM, Emrouznejad A, Sambo LG, Munguti N, Liambila W. "Using data envelopment analysis to measure the technical efficiency of public health centres in Kenya." Journal of Medical System, 2004 April; 28(2):155-66.
191. Klecskowski BM, Roemer MI and Van Der Werff A. (1984) National Health Systems and Their Orientation Towards Health For All. Guidance for policy making. Public Papers No. 77. World Health Organisation, Geneva.

192. Knowles JC. "Research note: price uncertainty and the demand for health care." Health Policy and Planning, September 1995; 10(3):301-3.
193. Kontodimopoulos N, Nanos P, Niakas D. "Balancing efficiency of health services and equity of access in remote areas in Greece." Health Policy, March 2006; 76(1):49-57.
194. Laing W. (1993) Financing Long Term Care: The Crucial Debate. Age Concern England, London.
195. Lauer JA, Knox Lovell CA, Murray CJ, Evans DB. "World health system performance revisited: the impact of varying the relative importance of health system goals." BMC Health Services Research, July 2004; 4(1):19.
196. Lee K and Mills A. (1982) Policy-Making and Planning in the Health Sector. Croom Helm, London.
197. Lee K and Mills A. (Eds.) (1983) The Economics of Health in Developing Countries. Oxford University Press.
198. Lee K and Mills A. (1983) "The Economics of Health in Developing Countries: A Critical Review." in Lee K and Mills A. (Eds.) (1983) The Economics of Health in Developing Countries. Oxford University Press.
199. Lee K and Mills A. (Eds.) (1993) Health Economics Research in Developing Countries. Oxford University Press, New York.
200. Lee Soo Ann. (1974) Economic Growth and the Public Sector in Malaya and Singapore 1948-1960. Oxford University Press, Singapore.
201. Lee Soo Ann. (1977) Economic Planning and Project Evaluation. Singapore University Press, Singapore.
202. Leung GM, Yueng RYT, Wong IOL, Caston-Cameo S, Johnston JM. "Time costs of waiting, doctor shopping and private-public sector imbalance: Microdata evidence from Hong Kong." Health Policy, March 2006; 76(1):1-12.
203. Lewis AW. (1966) Development Planning – The Essentials of Economic Policy. George Allen & Unwin Ltd. Ruskin House, Museum Street, London.
204. Lim Chin. (1988) Economic Issues in Health Care. Proceedings of the Seminar on Economic Issues in Health Care, National University of Singapore, 27<sup>th</sup> February 1988.
205. Lim MK. "Shifting the burden of health care finance: a case study of public-private partnership in Singapore." Health Policy, July 2004; 69(1):83-92.

206. Malaya (1953) Progress Report on the Development Plan of the Federation of Malaya 1950-1952. Office of the Member for Economic Affairs, the Treasury. Government Press.
207. Malaya (1956) The Development Plan and A Capital Expenditure Programme for 1956/1960. Economic Secretariat.
208. Malaya (1957) Report on Economic Planning in the Federation of Malaya in 1956. Government Press.
209. Malaya (1961) Second Five Year Plan 1961-1965. Government Press.
210. Malaya (1963) Interim Report of the Development in Malaya under the Second Five Year Plan. Government Press, Kuala Lumpur.
211. Malaysia (1966) First Malaysia Plan 1966-1970. Economic Planning Unit, Kuala Lumpur.
212. Malaysia (1971) Second Malaysia Plan 1971-1975. Economic Planning Unit, Kuala Lumpur.
213. Malaysia (1976) Third Malaysia Plan 1976-1980. Economic Planning Unit, Kuala Lumpur.
214. Malaysia (1981) Fourth Malaysia Plan 1981-1985. Economic Planning Unit, Kuala Lumpur.
215. Malaysia (1985) Fifth Malaysia Plan 1986-1990. Economic Planning Unit, Kuala Lumpur.
216. Malaysia (1991) Sixth Malaysia Plan 1991-1995. Economic Planning Unit, Kuala Lumpur.
217. Malaysia (1996) Seventh Malaysia Plan 1996-2000. Economic Planning Unit, Kuala Lumpur.
218. Malaysia (2001) Eighth Malaysia Plan 2000-2005. Economic Planning Unit, Kuala Lumpur.
219. Malaysia (1974) Midterm Review of the Second Malaysia Plan. Economic Planning Unit, Kuala Lumpur.
220. Malaysia (1978) Midterm Review of the Third Malaysia Plan. Economic Planning Unit, Kuala Lumpur.
221. Malaysia (1984) Midterm Review of the Fourth Malaysia Plan. Economic Planning Unit, Kuala Lumpur.

222. Malaysia (1988) Midterm Review of the Fifth Malaysia Plan. Economic Planning Unit, Kuala Lumpur.
223. Malaysia (1994) Midterm Review of the Sixth Malaysia Plan. Economic Planning Unit, Kuala Lumpur.
224. Malaysia (1998) Midterm Review of the Seventh Malaysia Plan. Economic Planning Unit, Kuala Lumpur.
225. Malaysia (2004) Midterm Review of the Eighth Malaysia Plan. Economic Planning Unit, Kuala Lumpur.
226. Malaysia (1991) The Second Outline Perspective Plan 1991-2000. National Printing Department, Kuala Lumpur.
227. Malaysia (2001) The Third Outline Perspective Plan 2001-2010. National Printing Department, Kuala Lumpur.
228. Marnoch G, Paul Lian CS. "Private medical practitioners and managed care in Malaysia: a survey of knowledge and attitudes held by Federal Territory based doctors." Social Science & Medicine, March 2002; 54(6):869-77.
229. Martinez J, Martineau T. "Rethinking human resources: an agenda for the millennium." Health Policy and Planning; 13(4):345-58.
230. Mathatir Mohamad. (1998) The Way Forward. Weidenfeld and Nicolson, London.
231. Maynard A. "Rationing health care: an exploration." Health Policy, September 1999; 49(1-2):5-11.
232. Maynard A, Walker A. "Managing the medical workforce: time for improvements?" Health Policy, January 1995; 31(1):1-16.
233. Maynard A, Bloor K. "Healthcare reform: informing difficult choices." International Journal of Health Planning and Management, 1995 Oct-Dec; 10(4):247-264.
234. McDermott R, Beaver C, Zhao Y. "Outcome-based resource allocation for indigeneous health services: a model for Northern Australia?" Health Policy, 1997 Jan.; 39(1):69-78.
235. McGhee SM, Leung GM, Hedley AJ. "Efficiency is dependent on the control of supply." Hong Kong Medical Journal, 2001; 7(2):169-73.
236. McGuire A, Fenn P and Mayhew K. (Eds.) (1991) Providing Health Care: the Economics of Alternative Systems of Finance and Delivery. Oxford University Press.

237. McGuire A, Henderson J and Mooney G. (1988) The Economic of Health Care: An Introductory Text. Routledge, London and New York.
238. McKee M. “Measuring the efficiency of health system. The World Health Report sets the agenda, but there’s still a long way to go.” British Medical Journal, 2001 August 11; 323(7308):295-296.
239. McLennan K and Meyer JA. (Eds.) (1989) Care and Cost: Current Issues in Health Policy. Westview Press, Boulder, San Francisco & London.
240. McPake B, Banda EE. “Contracting out of health services in developing countries.” Health Policy and Planning, March 1994; 9(1):25-30.
241. Mechanic D. “Some dilemmas in health care policy.” The Milbank Memorial Fund Quarterly. Health and Society, 1981 Winter; 59(1):1-15.
242. Meerman J. (1977) Meeting Basic Needs in Malaysia. A Summary of Findings. Bank Staff Working Paper No. 260, World Bank, April 1977.
243. Meerman J. (1979) Public Expenditure in Malaysia. Who Benefits and Why. Published for the World Bank, Oxford University Press.
244. Megat Burhainuddin MAR. (1996) Healthcare Reform in Malaysia: Opportunities for Private Sector Participation in Medical and Support Services. Paper presented at the Conference for Healthcare Corporatisation and Privatisation in Asia. 15-16 January 1996, Hilton International Hotel, Malaysia.
245. Mehmet O. (1999) Westernizing the Third World: The Eurocentricity of economic development theories. Second Edition. Routledge, Taylor and Francis Group, London & New York.
246. Mehrota A, Dudley RA, Luft HS. “What’s behind the health expenditure trends?” Annual Review of Public Health; 24:385-412.
247. Merican MI, Rohaizat Y. “Health care reform and changes: the Malaysia experience.” Asia Pacific Journal of Public Health, 2002; 14(1):17-22.
248. Merican MI, Rohaizat Y, Haniza S. “Developing the Malaysian health system to meet the challenges of the future.” Medical Journal of Malaysia, March 2004; 59(1):84-93.
249. Mills LA. (1942) British Rule in Eastern Asia – A Study of Contemporary Government and Economical Development in British Malaya and Hong Kong. Oxford University Press, London: Humphrey Milford.
250. Mills A. “To contract or not to contract? Issues for low and middle income countries.” Health Policy and Planning, March 1998; 13(1):32-40.

251. Mills A, Burgha R, Hanson K, McPake B. "What can be done about the private health sector in low-income countries?" Bulletin of the World Health Organisation, 2002; 80(4):325-29.
252. Mills A, Drummond M. "Value for money in the health sector: the contribution of primary health care." Health Policy and Planning, June 1987; 2(2):107-28.
253. Ministry of National and Rural Development, Malaysia. Techniques used for developing Malaysia. 1971.
254. Mitton C, Donaldson C. "Twenty-five years of programme budgeting and marginal analysis in the health sector". Journal of Health Services Research and Policy, 2001 Oct.; 6(4):239-48.
255. Mitton C, Donaldson C. "Setting priorities in Canadian regional health authorities: a survey of key decision makers". Health Policy, 2002 April; 60(1):39-58.
256. Mitton C, Donaldson C. "Resource allocation in health care: health economics and beyond". Health Care Anal., 2003 Sept.; 11(3):245-57.
257. Mitton C, Donaldson C. "Health care priority setting: principles, practice and challenges". Cost-Effective Resource Allocation; 2004 April 22; 2(1):3
258. Mitton C, Donaldson C, Waldner H, Eagle C. "The evolution of PBMA towards a macro-level priority setting framework for health regions". Health Care Management Science, 2003 Nov.; 6(4):1263-9.
259. Mitton C, McGregor J, Conroy M, Waddell C. "Making choices in health care: the reality of scarcity." Hospital Quarter, 2002 Fall; 6(1):48-54.
260. MOF, Estimated Expenditure and Budget Programme and Performance 1970. Ministry of Finance, Malaysia.
261. MOF, Estimated Expenditure and Budget Programme and Performance 1971. Ministry of Finance, Malaysia.
262. MOF, Estimated Expenditure and Budget Programme and Performance 1972. Ministry of Finance, Malaysia.
263. MOF, Estimated Expenditure and Budget Programme and Performance 1973. Ministry of Finance, Malaysia.
264. MOF, Estimated Expenditure and Budget Programme and Performance 1974. Ministry of Finance, Malaysia.
265. MOF, Estimated Expenditure and Budget Programme and Performance 1975.



- Ministry of Finance, Malaysia.
266. MOF, Estimated Expenditure and Budget Programme and Performance 1976.  
Ministry of Finance, Malaysia.
  267. MOF, Estimated Expenditure and Budget Programme and Performance 1977.  
Ministry of Finance, Malaysia.
  268. MOF, Estimated Expenditure and Budget Programme and Performance 1978.  
Ministry of Finance, Malaysia.
  269. MOF, Estimated Expenditure and Budget Programme and Performance 1979.  
Ministry of Finance, Malaysia.
  270. MOF, Estimated Expenditure and Budget Programme and Performance 1980.  
Ministry of Finance, Malaysia.
  271. MOF, Estimated Expenditure and Budget Programme and Performance 1981.  
Ministry of Finance, Malaysia.
  272. MOF, Estimated Expenditure and Budget Programme and Performance 1982.  
Ministry of Finance, Malaysia.
  273. MOF, Estimated Expenditure and Budget Programme and Performance 1983.  
Ministry of Finance, Malaysia.
  274. MOF, Estimated Expenditure and Budget Programme and Performance 1984.  
Ministry of Finance, Malaysia.
  275. MOF, Estimated Expenditure and Budget Programme and Performance 1985.  
Ministry of Finance, Malaysia.
  276. MOF, Estimated Expenditure and Budget Programme and Performance 1986.  
Ministry of Finance, Malaysia.
  277. MOF, Estimated Expenditure and Budget Programme and Performance 1987.  
Ministry of Finance, Malaysia.
  278. MOF, Estimated Expenditure and Budget Programme and Performance 1988.  
Ministry of Finance, Malaysia.
  279. MOF, Estimated Expenditure and Budget Programme and Performance 1989.  
Ministry of Finance, Malaysia.
  280. MOF, Estimated Expenditure and Budget Programme and Performance 1990.  
Ministry of Finance, Malaysia.

281. MOF, Estimated Expenditure and Budget Programme and Performance 1991. Ministry of Finance, Malaysia.
282. MOF, Estimated Expenditure and Budget Programme and Performance 1992. Ministry of Finance, Malaysia.
283. MOF, Estimated Expenditure and Budget Programme and Performance 1993. Ministry of Finance, Malaysia.
284. MOF, Estimated Expenditure and Budget Programme and Performance 1994. Ministry of Finance, Malaysia.
285. MOF, Estimated Expenditure and Budget Programme and Performance 1995. Ministry of Finance, Malaysia.
286. MOF, Estimated Expenditure and Budget Programme and Performance 1996. Ministry of Finance, Malaysia.
287. MOF, Estimated Expenditure and Budget Programme and Performance 1997. Ministry of Finance, Malaysia.
288. MOF, Estimated Expenditure and Budget Programme and Performance 1998. Ministry of Finance, Malaysia.
289. MOF, Estimated Expenditure and Budget Programme and Performance 1999. Ministry of Finance, Malaysia.
290. MOF, Estimated Expenditure and Budget Programme and Performance 2000. Ministry of Finance, Malaysia.
291. MOF, Federal Budget 1970. Ministry of Finance, Malaysia.
292. MOF, Federal Budget 1971. Ministry of Finance, Malaysia.
293. MOF, Federal Budget 1972. Ministry of Finance, Malaysia.
294. MOF, Federal Budget 1973. Ministry of Finance, Malaysia.
295. MOF, Federal Budget 1974. Ministry of Finance, Malaysia.
296. MOF, Federal Budget 1975. Ministry of Finance, Malaysia.
297. MOF, Federal Budget 1975. Ministry of Finance, Malaysia.
298. MOF, Federal Budget 1976. Ministry of Finance, Malaysia.
299. MOF, Federal Budget 1971. Ministry of Finance, Malaysia.

300. MOF, Federal Budget 1972. Ministry of Finance, Malaysia.
301. MOF, Federal Budget 1973. Ministry of Finance, Malaysia.
302. MOF, Federal Budget 1974. Ministry of Finance, Malaysia.
303. MOF, Federal Budget 1975. Ministry of Finance, Malaysia.
304. MOF, Federal Budget 1976. Ministry of Finance, Malaysia.
305. MOF, Federal Budget 1977. Ministry of Finance, Malaysia.
306. MOF, Federal Budget 1978. Ministry of Finance, Malaysia.
307. MOF, Federal Budget 1979. Ministry of Finance, Malaysia.
308. MOF, Federal Budget 1980. Ministry of Finance, Malaysia.
309. MOF, Federal Budget 1981. Ministry of Finance, Malaysia.
310. MOF, Federal Budget 1982. Ministry of Finance, Malaysia.
311. MOF, Federal Budget 1983. Ministry of Finance, Malaysia.
312. MOF, Federal Budget 1984. Ministry of Finance, Malaysia.
313. MOF, Federal Budget 1985. Ministry of Finance, Malaysia.
314. MOF, Federal Budget 1986. Ministry of Finance, Malaysia.
315. MOF, Federal Budget 1987. Ministry of Finance, Malaysia.
316. MOF, Federal Budget 1988. Ministry of Finance, Malaysia.
317. MOF, Federal Budget 1989. Ministry of Finance, Malaysia.
318. MOF, Federal Budget 1990. Ministry of Finance, Malaysia.
319. MOF, Federal Budget 1991. Ministry of Finance, Malaysia.
320. MOF, Federal Budget 1992. Ministry of Finance, Malaysia.
321. MOF, Federal Budget 1993. Ministry of Finance, Malaysia.
322. MOF, Federal Budget 1994. Ministry of Finance, Malaysia.

323. MOF, Federal Budget 1995. Ministry of Finance, Malaysia.
324. MOF, Federal Budget 1997. Ministry of Finance, Malaysia.
325. MOF, Federal Budget 1998. Ministry of Finance, Malaysia.
326. MOF, Federal Budget 2000. Ministry of Finance, Malaysia.
327. MOH, Annual Report 1971/72, Ministry of Health, Malaysia.
328. MOH, Annual Report 1973/74, Ministry of Health, Malaysia.
329. MOH, Annual Report 1975, Ministry of Health, Malaysia.
330. MOH, Annual Report 1976, Ministry of Health, Malaysia.
331. MOH, Annual Report 1977, Ministry of Health, Malaysia.
332. MOH, Annual Report 1979, Ministry of Health, Malaysia.
333. MOH, Annual Report 1979, Ministry of Health, Malaysia.
334. MOH, Annual Report 1980, Ministry of Health, Malaysia.
335. MOH, Annual Report 1981, Ministry of Health, Malaysia.
336. MOH, Annual Report 1982, Ministry of Health, Malaysia.
337. MOH, Annual Report 1983, Ministry of Health, Malaysia.
338. MOH, Annual Report 1984, Ministry of Health, Malaysia.
339. MOH, Annual Report 1985, Ministry of Health, Malaysia.
340. MOH, Annual Report 1986, Ministry of Health, Malaysia.
341. MOH, Annual Report 1987, Ministry of Health, Malaysia.
342. MOH, Annual Report 1989, Ministry of Health, Malaysia.
343. MOH, Annual Report 1990, Ministry of Health, Malaysia.
344. MOH, Annual Report 1991, Ministry of Health, Malaysia.
345. MOH, Annual Report 1992, Ministry of Health, Malaysia.
346. MOH, Annual Report 1993, Ministry of Health, Malaysia.

347. MOH, Annual Report 1994, Ministry of Health, Malaysia.
348. MOH, Annual Report 1995, Ministry of Health, Malaysia.
349. MOH, Annual Report 1996, Ministry of Health, Malaysia.
350. MOH, Annual Report 1997, Ministry of Health, Malaysia.
351. MOH, Annual Report 1998, Ministry of Health, Malaysia.
352. MOH, Annual Report 1999, Ministry of Health, Malaysia.
353. MOH, Annual Report 2000, Ministry of Health, Malaysia.
354. MOH, Annual Report 2001, Ministry of Health, Malaysia.
355. MOH, Annual Report 2002, Ministry of Health, Malaysia.
356. MOH, Eighth Malaysia Plan 2001-2005. Book 1: Policies, Objectives and Strategies. Planning and Development Division, Ministry of Health, Malaysia. November 1999.
357. MOH, Health Care Financing in Malaysia: Views of the Ministry of Health. Paper presented by the Director General of Health Malaysia during the Mid-Term Review of the Seventh Malaysia Plan, Ministry of Health Malaysia. 25-26 May 1998.
358. MOH, Policies in Health. Planning and Development Division, Ministry of Health, Malaysia. July 1999.
359. MOH, Malaysia's Health 2002: Technical Report of the Director General of Health, Malaysia, 2002. Ministry of Health, Malaysia.
360. MOH, Malaysia's Health 2001: Technical Report of the Director General of Health, Malaysia, 2001. Ministry of Health, Malaysia.
361. MOH, Malaysia's Health 2000: Technical Report of the Director General of Health, Malaysia, 2000. Ministry of Health, Malaysia.
362. MOH, Malaysia's Health 1999: Technical Report of the Director General of Health, Malaysia, 1999. Ministry of Health, Malaysia.
363. MOH, Malaysia's Health 1998: Technical Report of the Director General of Health, Malaysia, 1998. Ministry of Health, Malaysia.
364. MOH, Malaysia National Health Accounts (MNHA) Project – Health Expenditure Report (1997-2002). 2006

365. MOH, Report of the Second National Health and Morbidity Survey Conference. 20-22 November 1997, Hospital Kuala Lumpur. Public Health Institute, Ministry of Health, Malaysia.
366. Mohan J, Razali Raja Yaacob R. “The Malaysian Telehealth Flagship Application: a national approach to health data protection and utilization and consumer rights.” International Journal of Medical Informatics, 2004 March 31; 73(3):217-27.
367. Montes MF, Reyes RA & Tamabunlertchai. (1995) Macroeconomic Management in Southeast Asia’s Transitional Economies. Asian and Pacific Development Centre, East-West Centre and United Nations Development Programme.
368. Mooney G. “Equity in health care: Confronting the confusion” Effective Health Care, 1983; 1(4):179-184.
369. Mooney G. (1986) Economics, Medicine and Health Care. Second Edition. Harvester Wheatsheaf, Hertfordshire.
370. Mooney G. (1994) Key Issues in Health Economics. Harvester Wheatsheaf, New York, London, Toronto, Sydney, Tokyo and Singapore.
371. Mooney G, Jan S, Wiseman V. “Staking a claim for claims: a case study of resource allocation in Australia aboriginal health care.” Social Science & Medicine, June 2002; 54(11):1657-1667.
372. Mooney G. “The Danish health care system: it ain’t broke...so don’t fix it.” Health Policy, January 2002; 59(2):161-171.
373. Mooney G. “The demand for effectiveness, efficiency and equity of health care.” Theoretical of Medicine, 1989 September; 10(3):195-205.
374. Mooney G, Jan S. “Vertical equity: weighting outcomes? or establishing procedures?” Health Policy, 1997 Jan.; 39(1):79-87.
375. Murray CJL. “Towards an analytical approach to health sector reform.” Health Policy, April-June 1995; 32(1-3):93-109.
376. Murray CJL, Frenk J. “A framework for assessing the performance of health Systems.” Bulletin of the World Health Organisation, 2000; 78(6):717-28.
377. Murray CLJ & Evans DB (Eds.) (2003) Health Systems Performance Assessment: Debates, Methods and Empiricism. World Health Organisation, Geneva.

378. Musa Hitam. (1984) Malaysia's Strategic Vision: Into the 21<sup>st</sup> Century. Proceedings of a Conference on Malaysia: Past, Present & Future. Tufts University, Medford Massachusetts. November 18-20, 1984.
379. Musgrove P. "Judging health systems: reflections on WHO's methods." The Lancet, 24 May 2003; 361(9371):1817-20.
380. Musgrove P, Zeramdini R, Carrin G. "Basic patterns in national health expenditure." Bulletin of the World Health Organisation, 2002; 80(2):134-42
381. Musgrove P. "Public spending on health care: how are different criteria related?" Health Policy, 2 May 1999; 47(3):207-223.
382. Musgrove P. "A critical review of 'a critical review': the methodology of the 1993 World Health Report." Health Policy and Planning, March 2000; 15(1): 110-5.
383. Nabilla Al-Sadat. (2002) "the Future of Research in Health Economics in Malaysia." in Syed Mohamed A & Nabilla Al Sadat AM. (Eds.) (2002) Health Economics Issues in Malaysia. University of Malaya Press.
384. Nancholas S. "How to do (or not to do)... A logical framework." Health Policy and Planning; 13(2):189-93.
385. Navaratnam RV. (1998) Strengthening the Malaysian Economy: Policy Changes and Reforms. Pelanduk Publications (M) Sdn. Bhd., Malaysia.
386. Navarro V. "The new conventional wisdom: an evaluation of the WHO report, Health Systems: Improving Performance." International Journal of Health Service, 2001; 31(1):23-33.
387. Ness GD. (1967) Bureaucracy and Rural Development in Malaysia – A Study of Complex Organisations in Stimulating Economic Development in New States. University of California Press, Berkeley and Los Angeles.
388. Ness G. (1964) Economic Development and the Goals of the Government of Malaya in Wang Gungwu (Ed.) (1964) Malaysia: A Survey. F.W. Cheshire GB.
389. Newbrander W, Carrin G, Le Touze D. "Developing countries' health expenditure information: what exists and what is needed?" Health Policy and Planning, December 1994; 9(4):396-408.
390. Ng WK and Phua KH. (1986) "Characteristics of Health Situation in Developing Countries." in Phoon WO and Chen PCY. (Eds.) (1986) Textbook of Community Medicine in South East Asia. John Wiley & Sons.
391. Nichols LM, Ginsburg PB, Berenson RA, Christianson J, Hurley RE. "Are

- market strong enough to deliver efficient health care systems? Confidence is waning.” Health Affairs (Millwood), 2004 Mar-Apr; 23(2):8-21.
392. Noorali R, Luby S, Hossein Rahbar M. “Does use of a government service depends on distance from the health facility?” Health Policy and Planning; 14(2):191-97.
  393. Nor’aini Hj Abu Bakar. Corporatisation Models – National Heart Institute. Workshop on MMA’s Model for the Future Health System. 13-14 December 1997.
  394. Nord E. “Measures of goal attainment and performance in the World Health Report 2000: a brief, critical consumer guide.” Health Policy, 2000 March; 59(3): 183-91.
  395. OECD. (1992) Health Care Systems in Transition: The Search for Efficiency. Organisation for Economic Co-operation and Development. OEDC Social Policy Studies No. 7.
  396. Oliver A, Mossialos E. “Equity of access to health care: outlining the foundations for action”. Journal of Epidemiology and Community Health, 2004 Aug.: 58(8):655-8.
  397. Olsen IT. “Sustainability of health care: a framework for analysis.” Health Policy Planning; 13(3):287-95.
  398. Osei D, d’Almeida S, George MO, Kirigia JM, Menseh AO, Kainyu LH. “Technical efficiency of public district hospitals and health centres in Ghana: a pilot study.” Cost Effectiveness and Resource Allocation, 2005; 3:9
  399. Oyaya CO, Rifkin SB. “Health sector reform in Kenya: an examination of district Level planning.” Health Policy; 64 (2003):113-127.
  400. Paalman M, Bekedam H, Hawken L, Nyheim D. “A critical review of priority setting in the health sector: the methodology of the 1993 World Development Report.” Health Policy and Planning, March 1998; 13(1):13-31.
  401. Parkin (1991) “Comparing Health Service Efficiency Across Countries.” in McGuire A, Fenn P and Mayhew K. (Eds.) (1991) Providing Health Care: the Economics of Alternative Systems of Finance and Delivery. Oxford University Press.
  402. Paul Chan. (1979) The Third Malaysia Plan and Social Economics. In Some Contemporary Issues in Socio-Economic Development. Persatuan Ekonomi Malaysia, Kuala Lumpur, January 1979.
  403. Peet R and Hartwick E. (1999) Theories of Development. The Guilford Press, New York/London.



404. Phua KH. (1987) The Development of Health Services in Malaya and Singapore 1867-1960. A thesis submitted for PhD. London School of Economics and Political Science.
405. Phua KH. (1988) Trends in Health Expenditure and Cost Containment. Proceedings of the Seminar on Economic Issues in Health Care, National University of Singapore, 27<sup>th</sup> February 1988.
406. Phua KH. (1991) Privatisation & Restructuring of Health Services in Singapore. IPS Occasional Paper No. 5. The Institute of Policy Studies, Times Academic Press.
407. Phua KH, Chew AH. "Towards a comparative analysis of health systems reforms in the Asia-Pacific Region." Asia Pacific Journal of Public Health, 2002: 14(1): 9-16.
408. Phua KH. "Comparative Health Care Financing Systems With Special Reference to East Asian Countries." Research in Health Care Financial Management, 1999; 5(1): 113-33.
409. Phua KH. "The Development of Health Services in the Colonies – A Study of British Malaya and Singapore." Asia-Pacific Journal of Public Health, 1989: 3(4):315-23.
410. Phua KH. "Healthcare reforms in Asia." Economic Bulletin, November 1995: 18-21.
411. Popov GA. (1971) Principles of Health Planning in the USSR. World Health Organisation, Geneva.
412. Prior D, Sola M. "Technical efficiency and economies of diversification in health care." Health Care Management Science, 2000 September; 3(4):299-307.
413. Raman Kutty V. "Historical analysis of the development of health care facilities in Kerala State, India." Health Policy and Planning; 15(1):103-109.
414. Raman M. (1997) Ensuring Universal Access to Reliable and Affordable Health Care. Consumers' Association of Penang.
415. Reisman D. (1993) The Political Economy of Health Care. St. Martin's Press, New York.
416. Retzlaff-Roberts D, Chang CF, Rubin RM. "Technical efficiency in the use of health care resources: a comparison of OECD countries." Health Policy, July 2004; 69(1):55-72.

417. Richardson J, Wildman J, Robertson IK. "A critique of the World Health Organisation's evaluation of health system performance." Health Economics, 2003 May; 12(5):355-66.
418. Ritsatakis A, Barnes R, Dekker E, Harrington P, Kokko S and Makara P. (2000) Exploring Health Policy Development in Europe. WHO Regional Office for Europe, Copenhagen. European Series No.86.
419. Rodriguez E, De Puelles PG, Jovell AJ. "The Spanish health care system: lessons For newly industrialized countries." Health Policy and Planning; 14(2):164-173.
420. Roemer MI. "Priority for primary health care: its development and problems." Health Policy and Planning, March 1986; 1(1):58-66.
421. Roemer MI. "Health care costs and financing in world perspective." The Yale Journal of Biology and Medicine, 1991 Sep-Oct; 64(5):435-41.
422. Roemer MI. (1991) National Health Systems of the World. Oxford University Press. Oxford, New York, Toronto.
423. Rohaizat Y, Mahani AH, Yew SL. "Evaluation of the Seventh Malaysian Health Plan: a new approach." Asia-Pacific Journal of Public Health, 2001:13(1):54-8.
424. Rohaizat Y. (2002) "Health Care Financing in Malaysia: future Trends." in Syed Mohamed A & Nabilla Al Sadat AM. (Eds.) (2002) Health Economics Issues in Malaysia. University of Malaya Press.
425. Ron A. "The changing public/private mix in health care." Health Policy; 8 (1987): 13-15.
426. Roziah Omar. (2000) Health: Bridging the Gaps. Social Cultural Interpretations of Health. University of Malaya Press, Kuala Lumpur.
427. Rozita HTH, Sararaks S, Oostendorp R & Zulkarnain AK. (2000) Health Care Demand Analysis: Models and Policy Simulation for Malaysia. Conference Proceedings, International Conference on Evidence-based Practice: "Towards Evidence-based Policymaking in Health Sector Development.", The Legend Hotel, Kuala Lumpur, Malaysia, 4-6<sup>th</sup> September 2000.
428. Saltman RB, von Otter C. "Public competition verses mixed markets: an analytic comparison." Health Policy, February 1989; 11(1):43-55.
429. Schwartz FW, Glennerster H & Saltman RB. (Eds.) (1996) Fixing Health Budgets: Experience from Europe and North America. John Wileys and Sons, Chichester, England.
430. Sen A. (1999) Development as Freedom. Alfred A Knoff, New York.

431. Sen A. (1991) "Economic Development: Objectives and Obstacles." In Martin K. (Ed.) Strategies of Economic Development: Readings in the Political Economy of Industrialisation. Macmillan in association with the Institute of Social Studies.
432. Shaw RP. "World Health Report 2000 'Financial fairness indicator': useful compass or crystal ball? International Journal of Health Services, 2002; 32(1):195-203.
433. Simmonds S. "Human resource development: the management, planning and training of health personnel." Health Policy and Planning, 1989; 4(3):187-96.
434. Shepard DS, Phua KH & Savedoff W. (2002) Health Care Reform Initiatives in Malaysia. Report of a consultation with the Planning and Development Division, Ministry of Health, Malaysia. 16 October 2002. The Heller School for Social Policy and Management, Brandeis University.
435. Sloan FA, Blumstein JF and Perrin JM. (Eds.) (1988) Cost, Quality and Access in Health Care: New Roles for Health Planning in a Competitive Environment. Jossey-Bass Publishers, San Francisco and London.
436. Soh CS. (1988) Effectiveness and Efficiency in Health Care. Proceedings of the Seminar on Economic Issues in Health Care, National University of Singapore, 27<sup>th</sup> February 1988.
437. Soon Lee Ying and Shyamala Nagaraj. (Eds.) (1999) The Seventh Malaysia Plan: Productivity for Sustainability Development. University of Malaya Press, Kuala Lumpur.
438. Sorkin A. (1976) Health Economics in Developing Countries. Lexington Books, Toronto.
439. Sorkin, A. (1992) Health Economics: An Introduction. Third Edition Lexington Books, New York.
440. Stahl I. (1981) "Can Equality and Efficiency Be Combined? The Experience of the Planned Swedish Health Care System." In Olson M. (Ed.) A New Approach to the Economics of Health Care. American Enterprise Institute for Public Policy Research, Washington and London.
441. Stanton B, Wouters A. "Guidelines for pragmatic assessment for health planning in developing countries." Health Policy, July 1992; 21(3):187-209.
442. Stephens C. "The urban environment, poverty and health in developing countries." Health Policy and Planning, June 1995; 10(2):109-21.

443. Sulaiman AB and Jegathesan M. (Eds.) Health in Malaysia: Achievements and Challenges. Planning and Development Division, Ministry of Health, Malaysia.
444. Syed Mohamed A & Nabilla Al Sadat AM. (Eds.) (2002) Health Economics Issues in Malaysia. University of Malaya Press.
445. Tangcharoensathien V, Lertiendumrong J. "Health system performance." The Lancet, December 2000; 356(1001):S31.
446. Taylor CE. (1984) The Uses of Health Systems Research. Public Health Paper No. 78. World Health Organisation, Geneva.
447. Taylor-Gooby P. "The politics of welfare privatization: the British experience." International Journal of Health Services, 1989; 19(2):209-20.
448. Teo Cheok Chin P. "The relationship between poverty and fertility in Peninsular Malaysia: a district analysis." Journal of Economy and Social Geography, 1989; 80(5):284-301.
449. Thunhurst C, Barker C. "Using problem structuring methods in strategic planning." Health Policy and Planning, June 1999; 14(2):127-34.
450. Todaro MP. (1985) Economic Development in the Third World. Third Edition. Longman, New York and London.
451. Van Lerberghe W, Conceicao C, Van Damme W, Ferrinho P. "When staff is underpaid: dealing with the individual coping strategies of health personnel." Bulletin of World Health Organisation, 2002; 80(7):581-84.
452. Varvasovszky Z, Brugha R. "How to do (or not to do)...A stakeholder analysis." Health Policy and Planning; 15(3):338-345.
453. Wagstaff A, Van Doorslaer E & Paci P. (1991) "Equity in the Finance and Delivery of Health Care: Some Tentative Cross-Country Comparisons." in McGuire A, Fenn P and Mayhew K. (Eds.) (1991) Providing Health Care: the Economics of Alternative Systems of Finance and Delivery. Oxford University Press.
454. Wagstaff A. "Socioeconomic inequalities in child mortality: comparisons across nine developing countries." Bulletin of the World Health Organisation, 2000;78(1):19-29.
455. Wagstaff A. "Poverty and health sector inequalities." Bulletin of World Health Organisation, 2002; 80(2):97-102.
456. Wagstaff a, Paci P & van Doorslaer E. "On the measurement of inequalities in health." Social Science & Medicine, 1991; 33(5):545-557.

457. Wagstaff A, van Doorslaer E, Calonge S, Christiansen T, et al. "Equity in the finance of health care: some international comparisons." Journal of Health Economics, 1992 December; 11(4):361-87.
458. Wagstaff A, van Doorslaer E, van der Burg H, Calonge S, et al. "Equity in the finance of health care: some further international comparisons." Journal of Health Economics, 1999; 18:263-290.
459. Wallis M. "Development planning in South Africa: legacies and current trends in public health." Public Administration and Development; 20(2):129-139.
460. Walt G, Gilson L. "Reforming the health sector in developing countries: the central role of policy analysis." Health Policy and Planning, December 1994; 9(4):353-70.
461. Wan Mahmud Othman, Abdul Aziz Mahmood, Rozlan, Safurah Jaafar, H. Yadav, Mary Paul. "Urban Health Care Services" Paper presented at the Ministry of Health Directors Conference on 31 July-3 August 1997 at Awana Golf and Country Resort, Pahang.
462. Wang Y, Collins C, Tang S, Martineau T. "Health systems decentralization and resource management in low and middle income countries." Public Administration and Development; 22(5):439-453.
463. Wang Gungwu (Ed.) (1964) Malaysia – A Survey. F W Cheshire, Great Britain.
464. Wee CH, Jomo KS. Government Health Expenditure Equity in Malaysia. Workshop on Health Care in Malaysia, 9-11 September 2004. Asia Research Institute, National University of Singapore.
465. Wheeler M. (1983) "Health Sector Planning and National Development Planning" in Lee K and Mills A. (Eds.) (1983) The Economics of Health in Developing Countries. Oxford University Press.
466. Wibulpolprasert S, Tangcharoensathien V. "Health systems performance – what's next?" Bulletin of the World Health Organisation, 2001; 79(6):489.
467. Williams SJ and Torrens PR. (Eds.) (1984) Introduction to Health Services. Second Edition. John Wiley & Sons, New York.
468. Willis CY, Leighton C. "Protecting the poor under cost recovery: the role of means testing." Health Policy and Planning, September 1995; 10(3):241-56.
469. World Health Organisation. "The role of contracting in improving health systems performance." Discussion Paper Number 1 – 2004. Department "Health System Financing, Expenditure and Resource Allocation" (FER), Cluster "Evidence and Information for Policy" (EIP). WHO, Geneva.

470. WHO (2004) The World Health Report 2004: Changing History. World Health Organisation, Geneva.
471. WHO (2003) The World Health Report 2003: Shaping the Future. World Health Organisation, Geneva.
472. WHO (2000) The World Health Report 2000. Health Systems: Improving Performance. World Health Organisation, Geneva.
473. WHO (1999) The World Health Report 1999: Making A Difference. World Health Organisation, Geneva.
474. WHO (1995) The World Health Report 1995: Bridging the Gaps. World Health Organisation, Geneva.
475. WHO (1996) Equity in Health and Health Care: A WHO/SIDA Initiative. World Health Organisation, Geneva.
476. WHO (1988) From Alma-Ata to the Year 2000: Reflections at the Midpoint. World Health Organisation, Geneva.
477. WHO (1981) Managerial Process for National Health Development. Guiding Principles for the Use in Support of Strategies for Health For All by the Year 2000. World Health Organisation, Geneva.
478. WHO (1978) Financing of Health Services. Report of a WHO Study Group. Technical Report Series 625. World Health Organisation, Geneva.
479. WHO (1974) Modern Management Methods and the Organisation of Health Services. World Health Organisation, Geneva.
480. WHO (1973) Interrelationships Between Health Programmes and Socio-Economic Development. World Health Organisation, Geneva.
481. WHO Regional Office for Western Pacific. (2003) Essential Public Health Functions - A Three Country Study in Western Pacific Region: Malaysia case report. pp. 79-150.
482. WHO Regional Office for Europe. (2005) Improving Health Systems Stewardship. Meeting Report. Madrid, 21-22 April 2005. WHO Regional Office for Europe and Ministry of Health and consumer Affairs, Spain.
483. World Bank (1987) Financing Health Services in Developing Countries. A World Bank Policy Study.

484. World Bank (1993) World Development Report 1993: Investing in Health. World Bank.
485. Yap MC. (2001) "The 1997 Currency Crisis and Subsequent Policy Response" in Barlow C. (Ed.) (2001) Modern Malaysia in the Global Economy: Political and Social Change into the 21<sup>st</sup> Century. Edward Elgar, Cheltenham, UK & Northampton, MA, USA.
486. Yuen PP. "Health care financing in Hong Kong: a case for tax-based financing." International Journal of Health Planning and Management, 1999 Jan-Mar;14(1): 3-18.
487. Yusof K, Neoh KH, bin Hashim MA, Ibrahim I. "Role of teleconsultation in moving the healthcare system forward." Asia Pacific Journal of Public Health, 2002; 14(1):29-34.
488. Zuckerman S, Hadley J, Lezzoni L. "Measuring hospital efficiency with frontier cost functions." Journal of Health Economics, October 1994; 13(3):255-280.