Financing Healthcare: A Case for Reform in the Maldives

A dissertation submitted in partial fulfilment of the requirements for the degree of
Master of Art in Health Services Management with the
Faculty of Business Administration of the
University of Manchester

July 2002

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Abstract

Over three decades of economic growth has ushered the Maldives with great prosperity. Despite this unprecedented growth, the Maldivian economy remains fragile depending on two major industries, namely tourism and fishing, both vulnerable to changes in the world's major economies. The Maldives has one of the highest population growth rates and one of the smallest populations in the world. However, the Maldives has had remarkable success in eradicating Malaria and bringing many other dreaded communicable diseases to the verge of elimination. With the control of many infectious diseases, child mortality has decreased considerably and crude death rates have declined adding decades to life expectancy. On the darker side, prosperity and longevity has brought increasing challenges in the form of heart disease, diabetes and other diseases of affluence. These developments, like many other countries of the world have lead to enormous increase in the cost of health care provision.

In this same period, many developed countries have brought about reforms to their health systems in an effort to contain the escalating costs. Three major systems of healthcare financing are identified in literature, namely, public finance through general taxation, public finance through social insurance and private finance through voluntary insurance. Many developing countries followed suit by adopting variations and mixes of these systems.

The Maldives in the other hand did not undertake many reform processed targeted to contain costs. However, a number of mechanisms, mainly in the form of employment benefits have emerged in time. Political can be said to have shifted towards financial reforms in healthcare and new policy directions have been formulated. The Maldives has hence entered the era of reform and experimentation on how she will contain the costs of healthcare. With several opportunities and uncertainties, the Maldivian scene is now set to follow suit. A comprehensive process is now needed in order to provide affordable, effective, efficient and equal healthcare services for the people of the Maldives.

No portion of the work referred to in this dissertation has been submitted in support of an application for another degree of qualification of this or any other university or other institute of learning

To my grandmother, may Allah bless her soul…

Acknowledgements

This study could not have been completed without the assistance (academic and professional), various anecdotes, and interviews and so forth from a number of parties to whom I am obliged to. Firstly I would like to thank the Villa Scholarship Board and Villa Shipping for awarding me the scholarship to undertake this programme. I acknowledge the support from the Ministry of Health and the Ministry of Women's Affairs and Social Security for providing me with many insights and giving me access to number of documents and statistics to support the work. I am also indebted to many public and private companies for their encouragement and enthusiasm during the field research supporting this thesis. I thank Professor Joan Higgins for supervising my work and for sharing her knowledge and expertise without which I would not have been able to complete this dissertation successfully. I also thank Ms Kieran Lawson of the University of York for her support. Last but not least, I am deeply beholden to my beloved wife Suiza and daughter Shaiha for their love and continuous support as well as the sacrifices they made during my time of study.

Abbreviations and Acronyms

AIC	Allied Insurance Company
AIDS	Acquired Immune Deficiency Syndrome
ARI	Acute Respiratory Infections
BCG	*Bacille Calmette Guerin*
BMI	Body Mass Index (Kg/m^2)
CBR	Crude Birth Rate
CDR	Crude Death Rate
CHW	Community Health Workers
CSMBS	Civil Servants Medical Benefit Scheme
CVD	Cardiovascular Diseases
DHIRAAGU	*Dhivehiraajeygé Gulhun* (The Maldives Telecommunications Company)
DHONI	Mechanised or non-mechanised boat used for sea tranportation
DPH	Department of Public Health
DPT	Diphtheria, Pertussis (whooping cough), and Tetanus
DRG	Diagnosis Related Group
EPI	Expanded Programme of Immunisation
FASHAN	Foundation for Advancement of Self Help and Attaining Needs
FFS	Fee for Service
FHS	Faculty of Health Sciences
FHW	Family Health Workers
GDP	Gross Domestic Product
GKV	*Gesetzliche Krankenversicherung*
GoM	Government of Maldives
GP	General Practitioner
HBI	Health Benefit Intermediary
Hep-B	Hepatitis B
HIRU	Health Information and Research Unit
HIV	Human Immuno-deficiency Virus
HMO	Health Maintenance Organisations
HMP	Health Master Plan
IGMH	Indira Gandhi Memorial Hospital
ILO	International Labour Organisation
IMR	Infant Mortality Rate
LDC	Least Developed Countries
MCHE	Maldives College for Higher Education
MCO	Managed Care Organisation
MHAHE	Ministry of Home Affairs Housing and Environment
MHREL	Ministry of Human Resources, Employment and Labour

MICS-II	Multiple Indicator Cluster Survey - II
MMC	Maldives Medical Council
MNC	Maldives Nursing Council
MNSML	Maldives National Ship Management Limited
MOH	Ministry of Health
MPHRE	Ministry of Planning, Human Resources and Environment
MPND	Ministry of Planning and National Development
MTI	Ministry of Trade and Industries
MTPB	Maldives Tourism Promotion Board
MWASS	Ministry of Women's Affairs and Social Security
MWSA	Maldives Water and Sanitation Authority
MWSC	Malé Water and Sewerage Company
NBHS	National Board for Health Sciences
NCD	Non-communicable Diseases
ND	No Date
NDP	National Development Plan
NGO	Non-Governmental Organisations
NHS	National Health Service
NSS	National Security Service
NTC	National Thalassaemia Centre
ODA	Overseas Development Assistance
OECD	Organisation for Economic Cooperation and Development
OHSC	Oregon Health Services Commission
OP	Office of the President
OPD	Outpatient Department
OPV	Oral Poliovirus Vaccine
PCG	Primary Care Group
PCT	Primary Care Trust
PHU	Public Health Unit
PLC	Public Limited Company
PPO	Preferred Provider Organisation
PSD	Public Services Division
Rf	Rufiyaa (Maldivian Currency)
RM	*Rayyithungé Majlis* (The Maldivian Parliament)
RVO	*Reichsversicherungsordnug*
SHE	Society for Health Education
STO	State Trading Organisation
SSS	Social Security Scheme
TBA	Trained Birth Attendants
TFR	Total Fertility Rate

TT	Tetanus Toxoid
U5MR	Under-five Mortality Rate
UK	United Kingdom
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
US	United States
VAT	Value Added Tax
VPA	Vulnerability and Poverty Assessment
WCS	Workmen's Compensation Scheme
WHO	World Health Organisation

Chapter 1

Background and Introduction

1 Background

"Any health care system must solve two problems – how to ensure that patients are seen by the right health care providers, and how to pay for the services that providers render" (Aaron and Schwartz, 1984, p.14), i.e. it should be both efficient and equal. Thus, in a fair health system there should be access to all forms of care and to financing (Daniels et al, 2000). In most countries a large mix of supplementary mechanisms such as private insurance and out-of-pocket payments complement one dominant system of financing healthcare (Wagstaff et al, 1999). Despite this reliance on several mixtures and variations in healthcare financing patterns, there seems to be dissatisfaction with financing and delivery of health services (Ham, 1997a) and hence has lead to financing reforms throughout the world.

In an attempt to improve financing and access, healthcare reforms in the last two decades have incorporated market ideologies, language, principles and practices with the rationale to increase efficiency and to put a break on escalating healthcare costs (Richards, 1996). It also promoted private sector funding and provision of services and increased sharing of costs by patients resulting in a public-private mix (Richards, 1996). Given the extraordinary diversity of health system organizations, economists have influenced health policies with basic utility models; for example, if consumers are perfectly informed and providers are competitive then user fees will enhance efficiency (World Bank, 1987).

Unlike most developed countries, it can be said that in developing countries the main concentration of healthcare systems were to reduce the burden of disease, especially that of communicable diseases. In the recent past, developing countries have achieved remarkable success in reducing morbidity and mortality but the delivery of basic types of services and information to households that are mainly dispersed and poor poses a major challenge for further gains in healthcare (World Bank, 1987). At the same time, similar to the developed countries, aging populations, improvements in income and urbanisation are increasing the demand for more advanced and expensive care

posing tremendous pressure on health systems, at a time when public spending on such provisions cannot be increased but rather may have to be curtailed (World Bank, 1987).

The Republic of Maldives is a developing country which can be regarded to fit the above description. The Maldives is an archipelagos nation situated on the equator consisting of 1,190 low lying garland islands naturally divided into 26 atolls that stretch to 820 km from north to south and 120 km east to west. Although the country has a large number of islands, only 200 are inhabited and are divided into 20 administrative atolls each locally administering a group of islands. The total population of the country stood at 270,101 in year 2000 with some 74,000 people living in the capital island of Malé and the remaining population scattered in rural or sub-urban islands (MPND, 2001).

The health system in the Maldives has an inclination towards a totally integrated (Murray and Frenk, 1998) supplemented by a mosaic of private clinics. With a major emphasis on primary care, the health system is structured into a four-tier hierarchy with the Ministry of Health sitting at the top as the main policy and regulatory body (MOH, 1998a). The Department of Public Health is responsible health promotion and education throughout the country while the Indira Gandhi Memorial Hospital (IGMH) is the main tertiary referral hospital in the country (MOH, 1998a). Five regional hospitals with operation theatres and some specialty services operate to cover a group of islands and are the referral centres from the second tier. The atoll health centres and the island health posts at the third and fourth tier of the structure respectively, provide mainly preventive care and maternity services, with very limited curative care.

This dissertation will attempt to analyse the current health system and the financing mechanisms in the Republic of Maldives. This analysis will be complemented by a literature review that outlines the financing mechanisms in some major health systems of the world and in some lesser-developed

countries. Findings from the literature will then be applied to propose a reform strategy in financing healthcare services in the Maldives.

1.1 Goals and Aims

The main aim of this project is to understand the current mechanisms of financing healthcare services in the Maldives. In light of this analysis and a literature review, a possible strategy for healthcare financing reform in the Maldives will be proposed.

1.2 Specific Objectives

The specific objectives of this study are:

- To analyse the current healthcare system in the Maldives
- To analyse the current mechanisms for financing healthcare in the Maldives
- To review literature on healthcare financing and their reforms
- To outline a possible strategy for healthcare financing reform in the Maldives

1.3 Methods

This project is based mainly on secondary data sources. Documents published by the Government of Maldives are the main sources of information. However, some available unpublished data were also obtained to analyse the current operations of the health system. These includes consultancy reports, information in databases of different government organisations and some informal discussions and are referred as appropriate throughout the dissertation. Furthermore, research had to be conducted to identify the current healthcare financing mechanisms in the country. A number of companies were interviewed to obtain information on the different employment benefits and entitlements for their employees.

One of the major limitations of this research is the lack of previous literature on the subject and the reliance on government sources. Since the Maldives is a country where research is only in the brink of becoming more common practice, research material on these types of subjects are extremely scarce, especially from independent sources.

The literature review is based mainly of published international journal material. The main search strategy for journal articles were the John Rylands University Library electronic resources and the academic database archives using the Athens website. Furthermore, some related text books were also referred.

1.4 Structure of the dissertation

1.4.1 Chapter 1

This introductory chapter of the dissertation will be followed by four main chapters (chapters 2 to 5) and a fifth chapter (chapter 6) to conclude the dissertation. The content of the proceeding chapters are as follows:-

1.4.2 Chapter 2

The first section of this chapter will outline some basic facts about the Republic of Maldives. This would include basic geographical, demographic and economic background of the country. Further to this basic health statistics and disease profile of the country will be outlined as a basic introductory thesis of the Maldives.

The second section of this chapter will be focussed on the current healthcare system in the country. The structure of the public system and the private organisations will be addressed. In addition to this, the operations of the pharmaceutical sector will be scrutinised. Furthermore, the role of non-government organisations and traditional practices will also be discussed briefly.

1.4.3 Chapter 3

This chapter leads to the discussion on the healthcare financing mechanisms currently in place in the Maldives. The chapter will elaborate on the existing mechanisms for purchasing healthcare, such as the very dominant out-of-pocket payment system, public welfare services, any available information on employment benefit schemes, the provident fund and government medical allowance payment system will be analysed.

This chapter poses some limitations in that some data, especially from the private sector were not available and/or accessed. However, it is felt that adequate information is used to address the issue at hand.

1.4.4 Chapter 4

This chapter provides further understanding into the different healthcare financing mechanisms in the world through a literature review. The review will address the dominant systems by analysing major health systems such as the British National Health Service (NHS) and the United States health system and well as some European social insurance based systems, their reform and some outcomes of those reforms. Apart from this, reforms in some Asian and African countries will also be addressed for comparison despite the limited material available on such countries.

1.4.5 Chapter 5

In light of the literature analysis and the country health system analysis, this chapter will provide some reform strategies the Maldives could employ in order to make its financing system more efficient and equal. However, it is important to not that the solutions provided in this chapter does not provide any quick-fix solutions to the Maldives.

1.4.6 Chapter 6

This chapter draws from all the preceding chapters and forms the conclusion of this dissertation.

Chapter 2

Country Profile and Health System

2 The Republic of Maldives: an Introduction

2.1 Geography

The Republic of Maldives is an archipelagos nation situated on the equator at approximately 7^{o} North 0^{o} South latitudes and between 72^{o} to 73^{o} Eastern longitudes (MOH, 2001). It consists of 1,190 low lying garland islands naturally divided into 26 atolls that stretch to 820 km from north to south and 120 km east to west. See appendix 8.1 for map of the Maldives. Although the country has a large number of islands, only 200 are inhabited and are divided into 20 administrative Atolls, each locally administering a group of islands. A further 111 islands are used for hotel, industrial and other purposes (MPND, 2002a) of which 87 are used as tourist resorts (MTPB, 2000). Due to the fragile nature of these islands, the Maldives practice a stringent environmental protection policy where by all development activities must be subject to sound environmental management regimes and practices. All existing and future development activities are designed and managed to minimize the negative impact of environment on human health (OP, 2002). The climate is generally warm with an average temperature fluctuation between 29 to 32 degrees Celsius (MTPB, 2000).

2.2 Population Trends

The population of Maldives have grown at a high rate averaging at 3.2% per annum between 1977-1985 censuses. After reaching a peak of 3.4% per annum between 1985 and 1990, came down to 2.8% in 1995 and further decreased to 1.96% in 2000 (MPND, 2001a). Although the population in the age groups 1-4 has decreased in 1995 when compared to 1990, the largest birth cohorts during the 1980 to 1990 period will enter the reproductive age group shortly (MOH, 1998). This has implications for the future population growth in the form of a possible "baby boom".

The total population of the country stood at 270,101 in year 2000 with some 74,000 people living in the capital island of Malé and the remaining population scattered in rural or sub-urban islands (MPND, 2001a). Many of these islands have considerably small populations. The de facto population in 71% of the

islands is less than 1000 people and only one island – the capital Malé with a population over 10,000 (MPND 2001a). Appendix 8.2 shows a table of population breakdown by islands.

In 1985 the sex ratio was 108 males per 100 females and by year 2000 decreased to 104 males per 100 females (MPND, 2001a). The age structure of the Maldivian population remains youthful with 41% under the age of 15 and 6% over 65 (MPND, 2001a and MPND, 2001b). The average life expectancy at birth is 73 years with 73 years for women and 72 years for men (MOH, 2001). It is important to note that the WHO estimates of life expectancy for Maldives stand lower than these figures at almost 63 for both sexes (WHO, 2001). The sharp decrease in the population growth rate and a steady increase in life expectancy will lead to a gradually increasing elderly population. It is estimated that with the current growth rate, the population will reach 500,000 in about three decades (MPND, 2001b). Appendix 8.3 shows detailed statistics.

2.3 The Economy

The Maldives is faced with the challenge of a narrow economic base with limited human resources that are insufficient to sustain a dynamic, knowledge-based economy and the domestic market forces are too small to stimulate economic growth. These weaknesses are further aggravated by the fact that the country is dependent heavily on two major industries – tourism and fishing (MPND, 2002a). Furthermore, the smallness and the scattered nature of settlements pose considerable diseconomies of scale (MPND, 2002a). Thus a decline in any of the two industries will have serious implications on the provision of public services, employment, development activities and the overall standard of living. Despite these challenges, the Maldives have made significant achievements in economic and social development. During the period 1997 to 2000 the GDP grew at an average annual rate of 6.8% which is significantly higher compared to the South Asian average of 5.9% and that of least developed countries (LDC) which stood at 4.5% during the same period (MPND, 2002). The expansion of the tourism sector and growth in the transport and telecommunications sector has contributed to the sustenance of GDP growth. Some 34% of the contributions are form the tourism industry and almost 16%

from the transport and telecommunications industry whereas the traditional stronghold of fisheries contributes only about 7% (MPND, 2002a).

Apart from bank profit taxes, there is no direct taxation such as income tax, corporation or land tax. Other conventional revenue sources such as VAT and sales tax are also non-existent and hence a large percentage of public finance is through indirect taxation. Over 50% of public revenue in year 2000 was generated from tourism tax and other tourism related services and imports while public enterprise and non-tourism related imports generated a further 25% of the revenue (MPND, 2002a). The revenue from resort rent alone accounted for some Rf 406.6 million which is almost US$ 35 million in year 2000. Furthermore during the last five years the annual domestic revenue increased steadily to Rf 2347.0 million, approximately US$ 200 million in year 2000 (MPND 2002a). Nonetheless, foreign borrowings have also increased and overseas development assistance (ODA) declined. At the end of year 2000, it is estimated that the external debt rose to $155 million and ODA declined form US$ 46 million in 1995 to US$ 31 million (MPND, 2002a).

2.4 Employment

In the Maldives there is no official retirement age. Public sector employment accounted for some 26,684 people at the end of 2001 (MPND, 2002b). Official employment and unemployment figures are not available. However, using the published population and employment figures it can be deduced that the employment rate or the employment-to-population ratio is 61% (assuming that the working age group is from 16-64 years inclusive). The employment rate for males and females stand at 81% and 41% respectively. This figure, however, must be interpreted with caution since it is only a crude estimate based on population figures. The census does not provide sufficient analytical data to produce unemployment figures for the country (refer appendix 8.4 for definitions and calculations).

During the past decade, expatriate employment has increased. By year 2000, 27,000 expatriates were employed and are increasing (MPND, 2002a). Efforts have been made under labour regulations to encourage local employment.

However, expatriate employment is required and will benefit the country in highly skilled areas such as doctors, nurses and teachers until such time the Maldives becomes self sufficient in providing such skilled labour. At present the bulk of expatriate employment is in the un-skilled sector. Poor working conditions and long working hours make locals reluctant to take up such employment for the given benefits and wages (MPND, 2002a). The hurdle is further raised by the increase in the number of school leavers joining the work force. It is estimated that by the end of 2002 some 16,000 students will complete higher secondary education and join the work force (MPND, 2002a). The sixth NDP has developed strategies to address this issue by proposing to restrict expatriate employment unless no locals come forward for the advertised jobs (MPND, 2002a). In 1996, a public notice mandated that all jobs be advertised on locally with detailed information on the nature of the jobs (MPHRE, 1996). Applications for expatriate recruitment can only be put forward if no local parties were available for the job.

2.5 Income and Poverty

The year 2000 census showed that a total of 160,173 people earned some form of income (MPND, 2001a). Analysis of income data shows that over half (50.8%) of the earning population got less than Rf 500 per month which is approximately US$ 42. More women (69%) and more people in the rural areas (54%) fall into this category (refer appendix 8.5). In 1998 it was estimated that the average household income is about Rf 24 per person per day which is approximately US$ 2 (MPND, 1998). The per capita income in Malé is Rf 35 and that in the islands is Rf 20 which is approximately US$ 3 and 1.7 respectively. It is reported that the median is a better indicator of income and it stands at Rf 26 and Rf 15 per person per day for the capital and the islands respectively (MPND, 1998).

The VPA (MPND, 1998) concluded that income poverty exists all over the country. In calculating the income poverty levels, three arbitrary cut-off amounts were taken into account. The atoll median of Rf 15 per person per day was taken as the maximum poverty line and the lowest poverty line was set at Rf 7.5 (approximately US$ 1.3 and 0.65 respectively). Thus half of the atoll

population fall under this line by definition and about 15% of the atoll population fell under the lowest poverty line. The middle poverty line was set at Rf 10 per person per day. Using these figures, it was estimated that there is a 15% prevalence of income poor in the Maldives earning about US$ 0.65 per person per day (MPND, 1998). The capital island of Malé contribute to about 15% of the income poor and 20% of the income poor distributed amongst two islands, the Capital and Hinnavaru in Lhaviyani Atoll (MPND, 1998). However, 43% of the surveyed population reported that their household income rose within the past 5 years, 42% reported an unchanged income status and 14% reported a decrease (MPND, 1998).

2.6 Health status of the population

Custody to the task of reducing burden of disease the Maldives have achieved remarkable success in plummeting morbidity and mortality from almost all communicable diseases. High immunisation coverage, control of communicable diseases and improvement in healthcare provision with emphasis on preventive health has lead to the improvement of all major health indicators. The IMR has decreased from 120 per 1000 live births in the late 1970s to 21/1000 live births by year 2000 and the U5MR from 137/1000 live births in 1980 to a low 30 in year 2000 (MOH, 2001a). The TFR has been high and stood at 6.4 in 1990 and WHO estimates indicate that at the end of 1999 it stood at 5.2 (MOH, 1998 and WHO, 2001a). CBR has been reduced from 38/1000 population in 1991 to 20/1000 population in year 2000, and at the same time, the CDR has also declined 4/1000 population in year 2000 (MOH, 2001a). These figures however should be interpreted with caution since the vital events reporting system has a number of discrepancies in it and hence underestimations.

The Maldives have managed to maintain vaccination coverage close to 100% for BCG, DPT polio and measles (MOH, 2001a). However, a recent survey showed that vaccination coverage was not as high as the routinely reported figures and stood at 85% (MOH, 2001b). The current EPI programme includes BCG, OPV, measles, DPT, Hep-B, and TT vaccination for pregnant women (MOH, 2001a). With this comprehensive programme, polio, diphtheria, pertussis and neonatal tetanus have been almost eliminated (MOH, 2001a). Although no

reliable data are available, it is seen that acute respiratory infections (ARI) are very common in the Maldives accounting to approximately 9% of classified deaths (MOH, 2001a). The incidence and prevalence of tuberculosis (TB) has been low and statistics show an absence of the disease in the under-five population. However, MOH (2001a) reports that this maybe due to stigmatisation of the disease in the population and hence under-reporting. Furthermore, incidence of leprosy has also been reduced and falls within the WHO targets for leprosy elimination with a prevalence of 0.08/1000 population at the end of year 2000 (MOH, 2001a).

An important achievement was made in the control of malaria with the eradication of the disease; however, the threat of malaria looms across the borders with improvements in transportation between endemic countries. Filaria prevalence has also been reduced to a mere 0.03/1000 population by the end of year 2000 (MOH, 2001a). Although kept under control, HIV/AIDS poses new challenges for the country. Since the introduction of screening in 1991, 12 Maldivians and 90 immigrant workers have been tested positive (MOH, 2001a). With stringent screening measures and health education, the situation remains auspicious. Despite these achievements, dengue fever remains endemic and a major outbreak of DHF occurred in 1988 after which the disease has been kept out of epidemic proportions. Furthermore, diarrhoea and worm infestations still constitute to some childhood morbidity (MOH, 2001a). Appendix 8.6 shows detailed statistics.

With the control of endemic communicable diseases, the Maldives have seen an epidemiological transition towards the increase of non-communicable diseases (NCD) such as cardiovascular and renal diseases as well as diabetes. Cardiovascular diseases are now the major cause of morbidity and mortality in the country and accounted for over 20% of all deaths in the last 4 years (MOH, 2000 and 2001a). It can be argued that this is an underestimation since a large percentage of deaths are not classified or stated. Refer appendix 8.7 for details.

Oral cancer is common and is contributed by tobacco chewing and smoking. During the years 1999-2000, almost 28% of the reported cancers were oral (MOH, 2001a). Breast cancer and cervical cancer are also increasing. During 1999-2000, 17 and 13 cases of cervical and breast cancer was registered respectively. Mortality due to cancers is also on the increase (MOH, 2001a). In addition, MOH (2001a) reports that the prevalence of diabetes maybe as high as 6-8 percent of the population. Renal diseases have also hit hard on the Maldivian community. No reliable data is available, but it is estimated that about 30 new cases of renal failure will be diagnosed every year (MOH, 2001a). The Maldives has one of the highest known incidences of Thalassaemia in the world. It is estimated that one in six Maldivians carry the carrier trait and about 60-70 children are born with the disease every year though only one-sixth of them are diagnosed (MOH, 2001a). The National Thalassaemia Centre (NTC) and a NGO – Society for Health Education (SHE) are the major players in the treatment and management of the disease in the country. Apart from this, mental health and substance abuse also pose great challenges to the country.

Nutrition remains a major challenge. Thirty percent of the children under the age of five are underweight and 25% are stunted. The proportion of children who are severely undernourished is 9% according to weight-for-age and a similar percentage according to height-for-age. Wasting is also evident in Maldives, affecting 13% of children under five years of age (MOH, 2001b). The proportion of underweight children decreased from 43% in 1996 to 30% in 2001. The proportion severely stunted decreased from 30% to 25% and the proportion wasted decreased from 17% to 13% during same period (UNICEF, 1996 and MOH, 2001b). Other related disorders such as anaemia and chronic energy deficiency among women are also common. The mean BMI for women in Maldives is 23.5 (MOH, 2001b). Chronic energy deficiency is usually indicated by a BMI of less than 18.5. More than one-fifth (23%) of women have a BMI below 18.5, indicating a high prevalence of nutritional deficiency, especially among the 15-24 age group (MOH, 2001b). The prevalence of anaemia among women 15-49 years of age is 51% with 41% mildly anaemic, 10% moderately anaemic and 1% severely anaemic.

2.7 The Healthcare System

The health system in the Maldives has an inclination towards a totally integrated (Murray and Frenk, 1998) system where most of the financing, provision and stewardship is the responsibility of the government. However, the public integrated system is supplemented by a mosaic of private clinics ranging from single doctor consultations to group practices with laboratory services and some with inpatient capacity. The system is further complemented by different NGO's participating in public health functions, a competitive pharmaceuticals market, traditional medicine to some extent and a major private tertiary hospital. The pharmaceutical industry falls into the category of a full market. Appendix 8.8 shows the structure of the health system in the Maldives. Appendix 8.9 and 8.10 illustrates the geographical distribution of health facilities.

2.7.1 The public sector

The public sector operates as a centralised hierarchy. It is organised into four tiers comprising of the central, regional, atoll and island level services, arranged to follow a referral pathway from the island through to the central level. However, patients are neither required nor do they follow this pathway and can enter the system at any point.

The MOH is the main policy making body responsible for health planning and development. The Department of Public Health (DPH), Indira Gandhi Memorial Hospital (IGMH), the National Thalassaemia Centre (NTC) and the Maldives Water and Sanitation Authority (MWSA) comprise the main administrative bodies under the MOH. The DPH is responsible for prevention and control of communicable diseases and health promotion. It is also the main administrative body charged with delivering services through atoll health centres and at island level. The IGMH serves as the major tertiary referral hospital wit a capacity of 200 beds (MOH, 2001a). It also serves as the first point of entry to the health service for majority of the people in the capital island. The MWSA has a mandate of planning and regulation of water and sanitation services. A joint venture company – Malé Water and Sewerage Company Limited is responsible for provision of water and sewage management for the capital island.

The State Trading Organisation (STO) Public Limited Company has a chain of pharmacies. These pharmacies operate in full competition with the private sector and hence do not provide any subsidies. The Maldives College of Higher Education (MCHE) plays an important role. The FHS under the college is mandated to produce a large number of allied health professionals to support the system. Diploma level nurses, laboratory technicians, community health workers (CHW), family health workers (FHW) and trained birth attendants (TBA) are the main educational programmes run through this faculty.

At the regional level, five regional hospitals are situated strategically within the country each covering two to five atolls. These hospitals provide curative services for their respective regions and act as the first proper curative service referral centres with some major specialties. The inpatient capacity of these hospitals varies between 35 and 50 beds (MOH, 2001a). Apart from curative services, the hospitals provide outreach services for atoll hospitals and health centres and also supervise the health activities within the region. Each hospital is also attached with the public health unit (PHU) who coordinates preventive services within the respective region.

The atoll health centres provide very basic curative services and are staffed with a general doctor, a CHW and few nurses and administrative staff. Some centres have laboratory services as well. Since year 2000 some health centres have been transformed in to mini hospitals, called atoll hospitals with an operation theatre providing a limited amount of general surgery.

Most islands do not have infrastructure for healthcare services. An annex of the island offices are used by the FHW to deliver preventive care. FHW's are trained to provide preventive care and maternal and child health services. The TBA's attend deliveries within the islands. However, in the recent past, some islands have been provided with separate infrastructure known as health posts providing a safer environment for deliveries, maternal and child care.

2.7.2 The private sector

The private sector has grown rapidly in the past decade. At present there is one major tertiary hospital and 40 different clinics throughout the country (MOH, 2002). Private clinics provide services ranging from inpatient care to sports medicine and even traditional medicine. These clinics are either one doctor practices or group practices and many of them have their own laboratories capable of performing limited investigations. Many of these clinics are owned and run by public sector doctors on a part time basis. Kmietowicz (2000) argues that the simultaneous practice of doctors both in the public and private sectors form curbing factors such as "black markets" and "moonlighting" and can be argued to be present in the Maldivian system as well. Only 12 of the 40 clinics are operated in rural areas (MOH, 2002a).

A number of independent laboratory services also exist. Currently there are 27 such laboratories and 16 of them operate in rural areas (MOH, 2002b). The pharmaceutical industry operates as a complete market. However, since no products are manufactured in the country, all products are imported and hence expensive. Some pharmacies operate at a larger scale with a number of outlets of the same chain. However, all pharmacy outlets have to be registered separately in order for them to be operated. There are 171 pharmacy outlets of which 112 serve the rural population (MOH, 2002c). Apart from the clinics and pharmacies, a significant number of traditional healers also practice in the country but no statistics are available. There is only one recognised traditional medicine clinic in the country.

A large number of NGOs and community actions groups such as youth clubs also operate in the country and quite a number of these groups have health promotion in their mandates. At present there are 499 such clubs and association registered in the country, of which 216 are in the capital and 283 in rural islands (MHAHE, 2002). There are some prominent NGOs such as SHE, FASHAN, Care Society, Maldives Association for the Handicapped and Cancer and Diabetic Society who are formed exclusively for health promotion purposes.

2.7.3 Regulatory Mechanisms

Apart from the Law on Importation and Selling of Pharmaceutical Products, the Maldives does not have laws relating to specific health issues (RM, 1998). A general law on safety address areas such as tampering medicines and deliberate spreading of disease (RM, 1998). According to the Law on Vital Registrations, the MOH has the responsibility to develop and implement all rules and regulations on the matter (RM, 1998). Some issues are covered by presidential decrees which mainly relate to the public sector. However, many rules and regulations are issued by the MOH to address health issues, but are mostly administrative.

Recognising this infancy in the regulatory mechanism, measures have been taken to address the issue. In 1999, three important bodies, namely the Maldives Medical Council (MMC), the Maldives Nursing Council (MNC) and the National Board for Health Sciences (NBHS) were formed to address regulatory matters (OP, 1999). The MMC has a mission to maintain professional and service standards for medical care, enforce ethical codes, authorize medical practice and register practitioners (MMC 1999). The MNC has mandates to improve the standard of nursing and midwifery education and practice, and to regulate nursing personnel through licensing and also to prepare and implement a code of ethical and professional conduct for nurses (MNC, 1999). The NBHS relates to the regulatory matters on all other allied health professional and healthcare education standards in the country (MOH, 1997). However, these boards are also at an infant stage and are not functioning at its optimum due to lack of human and other resources.

The MOH prescribes regulations for the administration of private health facilities. A detailed regulation for the importation and selling of pharmaceuticals are also developed to complement the Law. However, none of these regulatory documents are published officially but are forwarded to the applicants as part of an introductory kit. Under the health facilities regulations, all facilities have to be registered and have to send quarterly reports as well as incidences of communicable and other diseases that require being notified (MOH, 1994?). The pharmaceuticals regulation requires that all pharmacies are

registered and imports to the country are declared for inspection at the customs (MOH, 1994). Furthermore, pharmacies are inspected regularly to check conformation to the regulations. An approved drug list supplements the regulation and is updated regularly. Further to these regulations, the DPH regulates the operations of all restaurants and fast food outlets with registration and regular inspection.

Recognising the weaknesses in the mechanism, the NDP has proposed to develop of a comprehensive legal framework. Negligence and malpractice, patient protection, medical records, practitioner licensing and healthcare financing are all included as areas for legislation (MPND, 2002a).

2.7.4 Inputs and Performance

The Maldives has seen a rapid increase in medical personnel in the last 10 years. The establishment of IGMH in 1995, expansion of regional hospitals and the recruitment of doctors to health centres saw an influx of medical personnel rising by almost 56% between 1994 and 1999 (MOH, 2001a). At present there are 263 doctors including specialists of whom 89% are employed by the government and 86% are expatriates (HIRU, 2002). This represents a patient to doctor ratio of 1049 (HIRU, 2002). The current bed capacity in the country is 521 representing 531 people per hospital bed (HIRU, 2002). Other health professionals include 630 nurses, 501 paramedics, 63 CHW, 281 FHW and 424 TBA (HIRU, 2002).

In the international comparisons of WHO, the Maldives was ranked 147 both on the level of health and overall system performance (WHO, 2001). However, when compared with other South East Asian countries, the Maldives health system did not fair that well with only Nepal scoring a lower rank (WHO, 2001). In comparison with nearest island nations, the scenario seems to be discouraging as well with nations such as Mauritius and Seychelles way above the chart (WHO, 2001). In terms of fairness in financial contribution though, the Maldives faired quite well with only India having better contribution rates and in regard to responsiveness level, the Maldives topped the chart among its neighbouring countries (WHO, 2001) perhaps reflecting the large share of out-

of-pocket contributions. It can thus, be said that the Maldives need to further strengthen its healthcare system by some favourable reform processes (refer appendix 8.11 for details of these concepts).

Chapter 3

Mechanisms for Financing Healthcare

3 Costs and Financing

The health system is financed predominantly through indirect taxation. Over 10% of total government expenditure is on health (MPND, 2002a) representing a per capita expenditure over Rf 1000 per year (HIRU, 2002). Furthermore, the MWASS spends a significant amount on welfare services for treatment both in-country and abroad as well as disability allowances. The private sector operates on a for profit market basis and expenditure figures are not available. Household expenditure on healthcare is also difficult to determine. Furthermore, indirect expenditure for transport and travelling time are regarded as major hurdles preventing people from seeking healthcare. For instance Salih and Waheed (2000) showed that the cost of transport for a hospital visit could be as high as Rf 1500 which is about US$ 130 one way for travel on a local 'Dhoni' and in some regions, travel to the nearest regional hospital may take two to six hours. A survey conducted for women aged 15-49 showed that the mean cost of a local health visit was estimated at about US$ 100 including travel and medication, and for an overseas medical trip the mean expenditure stood at around US$ 1000 (Pearson and Cockcroft, 2000). Patients who cannot afford to pay for the charges apply for assistance through the welfare system but it seldom covers the entire cost. Grants are also provided under the welfare scheme to obtain treatment abroad with medical advice or for those services not available in the country. Once again the whole cost of care may not be covered.

Healthcare is provided free in rural areas. Despite this, a considerable cost is incurred from patients as demonstrated by Salih and Waheed (2000) and Pearson and Cockcroft (2000). Regional hospitals charge patients for x-rays and private rooms only. It is presumed that user charges will be introduced at regional hospitals in the near future in the aim of recovering some costs. However, Zegers (1995) argue that the aim of implementing such mechanisms is to generate income form people who can afford and not to deter people form seeking services. Furthermore, he argues that since charges are normally based on the costs of provision, it is only reasonable to impose charges if those services are provided efficiently, and not to charge the public for bureaucratic

inefficiencies. In the capital, highly subsidised user charges are applied for all services. However, these fees are not related to the costs or in cases where there is a relation, was calculated based on costs incurred in neighbouring countries and have not been adjusted for inflation (Anderson, 1998). Although charges for health care has to be approved from the MOH by all healthcare delivery services, the range of costs differ i.e. there is no one standard for charges that can be imposed. A general consultation for instance will cost Rf 15 in the public sector and may range from Rf 50 to Rf 200 in the private sector (MOH, 2002d). These costs are approved on the basis of rent and overhead costs incurred by the private facilities that are justified to the MOH. Furthermore, both in the public and private sector, there is a positive discrimination for foreigners. For instance in the public sector, a general consultation for a foreigner will be double that for a local and in the private sector, tourists are charged at three to four times more than a local (MOH, 2002d). Although extremely unfair, it can be said that this practice is due to the fact that, most foreigners are covered by their employers and in case of the tourists, their insurance covers the cost of illness.

Under the Employment Regulations of Maldives, employers are required to provide sick leave with full pay up to 30 days. Maternity leave of 45 days on full pay and paternity leave of 3 days must also be granted upon child birth. Furthermore, 20 days annual leave and 10 days special leave for "extra ordinary circumstances (not defined)" should also be granted with full pay. In addition, 2 days of leave should be granted on any employee's son's circumcision (MHREL, 2001). In addition to this, the employer must provide all medical expenses on work related injuries until a doctor certifies full recovery (MHREL, 2001). In addition to the regulatory requirements, a number of other entitlements are provided both for civil and well as private sector employees. The PSD publishes a handbook that details all the entitlements and procedures for public sector employees. However, is the private sector, which has stronger entitlement policies very seldom has their operating procedures properly documented. Mostly these procedures exist as internal memorandums and/or board meeting minutes.

3.1 Entitlements for employees

Subject to 10 years of consecutive service, all public sector employees are entitled to free medical treatment and one third of gross salary in an event of disability, irrespective of the cause, for the period of incapacity to work under a presidential decree (OP, 1981). Under this same decree, an employee who has completed over 30 years of consecutive service who has become incapacitated due to age or health condition, a lump sum equal to half of the final salary multiplied by the total number of years of service is granted (OP, 1981). The government also grants pension for consecutive service of 20 years. Most of the time employees granted pensions are re-appointed and hence if they work for further 20 years, a second pension is granted. Since these pensions are not indexed, there is no pension increase with inflation. Survivor's benefits are not granted and pension payments cease upon death.

In 1998 the government introduced a provident fund for its employees by a presidential decree (OP, 1988). Participation in the provident fund is voluntary and is open for all government employees as wells as those working in public limited companies (PSD, 2000). Five percent of the monthly salary is deducted for the fund and the government put in the same amount. Savings are entitled on retirement or resignation. With a contribution of less than 5 years, the employee's own contributions plus interest are entitled, with contributions of 5-12 years, half the government's contributions plus interest are entitled in addition, while more than 12 years of contribution entitles the full government contributions plus the interest (PSD, 2000). It is said that the provident fund is invested in fixed deposits in banks and hence the interest rate varies with bank policies.

Other major benefits entitled include medical allowances of Rf 1000 per employee per annum introduced in 1990 (OP, 1990a). This allowance is handed directly to the employee on a quarterly basis. Further benefits include overtime payments, higher education allowance for graduates, technical allowances for people with vocational and other recognised technical skills, long term allowance for people who served the government for more than 10 years (PSD, 2000). Employees at the lowest ranks of the hierarchy such as labourers and

messengers are entitled to a domestic market allowance of Rf100 per month (OP, 1990b) later revised to Rf200 per month (OP, 1999).

The National Security Service (NSS) is one of the largest single employers and has its own welfare scheme. In this scheme all staff gets full medical cover for all available treatment in the country. Family medical cover is also provided but entitlements differ by rank. However, all expenses for family members are also covered when requested. Furthermore, healthcare is also provided abroad after medical consideration. In addition, vaccines for service personnel and special diets are provided on prescription. Payments are made directly to the provider on a contract basis where the employer acts as the insurer. Although the employees do not pay any premium, this is similar to the contract model (van der Ven, 1994). The NSS also provide services through its own OPD representing a vertically integrated (van der Ven, 1994) form of service (refer appendix 8.12).

In the STO entitlements scheme an employee is entitled to the benefits only after three years of service and a three-year gap is required between successive claims (Yoosuf, 2002). In addition to the public sector provident fund scheme, this institution hands out payments to eligible employees is conjunction with some entitled holidays. For example, a sum of Rf 1500 is handed out with maternity or paternity leave, Rf 1500 on the circumcision of son, Rf 1500 for funeral services of spouse are included in the benefits (Yoosuf, 2002). Furthermore, STO partially supports medical treatment abroad with certification from a doctor. Such support is provided for treatment in India and Sri Lanka only. Two return tickets and a sum of US$ 200 are handed out on such instances. STO also conducts a loan scheme for housing purposes with a maximum borrowing amount of Rf 30000 (Yoosuf, 2002).

DHIRAAGU, the telecommunication company, practices a reimbursement model for provision of healthcare to its employees. In this medical scheme, the employees have to pay the expenses directly to the provider and the company reimburses the employee with 80% of the total expenses (DHIRAAGU, 1996a).

This package includes all outpatient and inpatient care, prescriptions and travel expenses to and from the health service for the employee, spouse and children less than 15 years of age. Furthermore, overseas treatment in Sri Lanka and India are provided to the employees on the same basis if medically approved as a condition not treatable in the country. This includes accommodation and airfare as well. In cases where employees tend to go abroad for treatment without such medical approval, the company still reimburses inpatient costs and prescriptions at the same reimbursement rate (Riaz, 2002). Medical claims then have to be submitted to DHIRAAGU with related original documents such as cash receipts, prescriptions, doctor certificates, lab requisitions and reports and so forth for reimbursement (DHIRAAGU, 1996b).

The Malé Water and Sewerage Company (MWSC) also provide extra entitlements above the regulatory requirements. MWSC has arrangements with the government enabling its employees to join the public provident fund system with the same conditions as described above. The employees of this company though get a better deal in terms of their eligible leave arrangements under the employment regulation. For instance, 10 days compassionate leave is granted on the death of a family member with full pay and 5 days with full pay on the occasion of a son's circumcision (MWSC, 2000). The Maternity leave is given for a period of three months, paternity leave for three days and one-hour work breaks for breastfeeding the child for the period of six months. Furthermore, the company conducts scheme providing short to medium-term loans for purposes of education, housing and medical care for employees and their dependants (MWSC, 2000).

Furthermore, the Bank of Maldives PLC operates its own provident fund. Participation in this fund is voluntary as well. However, in this fund both the employee and the bank contribute 10% of the basic salary and the rate of interest is much higher than the government fund which stood at about 14% compared to approximately 6% in the government fund (ILO, 1998). The MNSML also have a separate provident fund system where participation is compulsory for all of its employees. The employee contributes 5% of the salary

and the company contributes 10% of the salary on a monthly basis (ILO, 1998).

Similarly, in the private sector, companies have quite good schemes for their employees. For instance, one major private employer with over 2000 employees provides full 100% medical cover (Riza, 2002). At present the scheme includes full outpatient, inpatient and prescription cover for locally sought medical care. The staff does not have to contribute the scheme and employees' families are not entitled to any of these benefits. At present, this company does not have detailed operating procedures for the scheme in place and has planned to further improve its benefit scheme and is in the process of formulating a provident fund and medical benefits scheme. It is said that most prominent private businesses have some form of healthcare cover and/or loan schemes in place for their employees, especially in the hospitality, shipping and travel industries.

3.2 Scope for health insurance

The Maldives do not have history of much insurance in any form. However, since 1985 one insurance company has existed and has covered areas such a marine cargo and vessels, liability, travel and so forth (AIC, 2000). The company also covers accidental death or injuries as well as incidental medical costs. However, large scale health insurance is not yet introduced into the market. It is said that a second company has also come into the market recently and has health insurance as one of their main mandates. The AIC has also embarked on developing health insurance but have fears that there might not be a market for individual private health insurance due to low pay scales and high standards of living (Thowfeeq, 2002).

At present, however, some companies do insure their employees. For instance a large company chain involving is trade, tourism, travel and shipping insures all its employees against employment related accidents and injuries (Hameed, 2002). Furthermore, the private hospital in Malé provides care for over 7000 employees from different companies on a contractual basis involving a system of reimbursement without any budget limitations (Sutadji, 1999). This hospital

has also indicated that they are in the process of formulating an insurance scheme for individuals and companies on a premium basis. The premium will depend on the benefit package that the individual or the company decides to enrol for. It is estimated that and yearly premium would range between Rf 1200 to Rf 1600 (Sutadji, 1999). Here the lowest premium rate is just Rf 200 above the annual medical allowance payments for public sector employees.

Thus, it can be argued that although full blown health insurance is not present in the country, many positive aspects of implementing a more structured approach is currently in operation. However, the lack of legal frameworks would pose a major hurdle for introduction of health insurance in the near future.

Chapter 4

Review of the Literature

4 Literature Review

4.1 Introduction

In the recent past, transitions in demography, disease profiles and technological advances can be said to have lead to many health system reforms throughout the world. For instance, Maclaury (1984) stated that the price of hospital care rose at a rate exceeding inflation or the growth of population. Technological advances, rising income and aging population will strain the public and private purses due associated increases in the cost of care (Maclaury, 1984).

Furthermore, Figueras et al (1998) argue that reforms are influenced by a range of political, ideological, social, historical, cultural and economic factors, all of which needs to be taken into consideration in understanding this context Secondly pressures on existing health and health sector problems along with increasing constraints on health spending as well as organizational and structural challenges call for reform (Figueras et al, 1998).

Thus, one could argue that healthcare systems are in a continuous process of reform by trying to achieve fairness in financing, be more responsive, and improve the health of the population it serves (Murray and Frenk, 1999). However, despite these processes of reform, there are vast differences between the performances of different health systems, and is yet to be explained (Eastaugh, 2000). The impact of these reform processes need to be further understood in order to explain these differences (Richards, 1996).

This review will outline an overview of the major healthcare financing mechanisms in practice. In order understand the operations of these systems, financing systems in some major health systems will be discussed. Lessons from the operations of these systems will be drawn to complement the other sections of this thesis.

4.2 Overview of Healthcare Financing

Although most countries have a complex mix of financing mechanisms, three predominant methods of financing healthcare are identified (Ham, 1997a and Ranade, 1998a).

1. Public finance through general taxation, also known as the 'Beveridge Model' used in the United Kingdom, New Zealand, the Nordic countries, Canada, Italy and Spain.
2. Public finance through compulsory social insurance, also known and the 'Bismarck Model' used in Germany, the Netherlands, France and Belgium.
3. Private finance based on voluntary insurance or direct payments used largely in the United States.

The first two models are supplemented by direct charges and/or private payments and the extent to which these variations differ from country to country (Ranade, 1998a). For instance in the supposedly 'free' health care systems of Europe, some 80 million people were said to have supplementary health insurance to cover for services not covered by the public system and/or to afford any out-of-pocket payments (Moran, 1994). It seems that general taxation and social insurance are the preferred methods over the more market oriented voluntary insurance system. Ham (1997a) argues that the voluntary insurance method include the risk of moral hazard for both users and providers leading to over utilisation and inappropriate use of services, the risk of cream-skimming and the difficulty in ensuring universal coverage and equitable access to services as well as extremely high costs in administration.

On the other hand, it is demonstrated that general revenues are usually the most equitable way of financing healthcare (Wagstaff et al, 1992). Since workers and their families in the informal sector generally include the poorest part of the population, general tax revenues should provide health services either in full or in a large part (Daniels et al, 2000). Furthermore, the larger the informal sector, the larger the need for public financing but the smaller the tax base to meet it (Daniels et al, 2000). Among the OECD countries, which rely

heavily on general revenues as the main source of funding, only few countries utilise a substantial competitive, financing mechanism in parallel (Chinitz et al, 1998). Unlike the tax funded systems, social insurance based systems are said to be usually less progressive since contributions are a flat percentage of the salaries or income, and due to the fact that there is a ceiling on the income used to collect premiums (Wagstaff et al, 1992). Social insurance systems may affect equity in terms of who is included and who is excluded in the scheme and/or who may decide to opt out from the scheme (Chinitz et al, 1998). For instance, Chinitz et al (1998) argue that if people with higher incomes decide to opt out and/or are not included in the programme, these types of systems become quite regressive.

Out-of-pocket payments are termed the most regressive of all financing systems. However out-of-pocket payments accounted for nearly 20 percent of healthcare payments in a number of OECD countries (Wagstaff et al, 1992 and Wagstaff et al, 1999). In this type of systems, the sick and the poor has to share a much greater portion of the income than the healthy and better off and since there is no risk pooling, out-of-pocket payments do not have any collective protection (Chinitz et al, 1998). In some countries where out-of-pocket payments predominate without a health insurance safety net, many families have to spend their whole income on healthcare when hit with sudden emergencies (Kmietowicz, 2000) i.e. illness leads to debt.

Wagstaff et al (1999) reported that the mix of different financing mechanisms in different countries had become more complex than that was in their previous study in 1992 and that in most countries the share financed privately increased. It was concluded that despite many reforms, the findings of the 1992 study remained true, i.e. tax-funded systems remained the most progressive and equitable (Wagstaff et al, 1999). It was also found that the French social insurance system progressed well where as in Germany and the Netherlands it was regressive due to non-participation from high earning parties in the population (Wagstaff et al, 1999). Despite the reliance on several mixtures and variations in healthcare financing patterns, there seems to be dissatisfaction

with financing and delivery of health services (Ham, 1997a). It is clear though that there are no quick fix solutions to these challenges and many healthcare systems have undergone reform processes in the past two decades. Many of these reforms, although controversial since it may adversely affect public health (Catalano and Hansen, 2001) has lead to market mechanisms with contracting-out of services (Vining and Globerman, 1999).

4.3 Healthcare Financing in Selected Countries

4.3.1 The United Kingdom

The healthcare financing system in the United Kingdom has evolved from voluntary health insurance before the 1900s to compulsory health insurance in the 1900s and to universal coverage in the late 1940s (Abel-Smith, 1995). Since then the National Health Service (NHS) in the United Kingdom is a publicly funded health system, which is also, for the most part owned and operated publicly (Renade, 1998b). The main source of funding for the NHS is from general taxation and national insurance contributions which is the fundamental objective of universal coverage and access since the very beginning of the NHS in 1948 (Dixon, 1998 and Morris, 2000) despite many reforms in the 1990s. Other complementary sources of funding for the NHS include capital refunds to trusts, proceeds of sales of assets or land and the National Lottery but are in very small proportions of the overall spending (Morris, 2000). This system represents the 'Beveridge Model' (Ham, 1997a and Ranade, 1998a) of healthcare financing as outlined in the preceding section. The management of health services is delegated to a system of appointed health authorities and prior to the reforms of 1991 these authorities received a cash-limited global budget allocated according to a needs-based population formula for the area it serves (Ranade, 1998b). Services were provided by salaried hospital staff and a comprehensive network of self-employed general practitioners (GPs) who were funded by the health authorities on a capitation basis (Ranade, 1998b).

In 1991 the British NHS embarked on a new flight of change of which the core was the introduction of a provider purchaser split by the establishment of internal or quasi-market arrangements (Ham, 1997b and Ranade, 1998b). Efficiency being the main argument for change, the basic logic behind the

reform was that money did not automatically flow from purchaser to provider, but providers have to compete for business resulting in competition that would encourage responsiveness, better quality and efficiency on the part of providers (Dixon, 1998). In this reformed NHS, NHS trusts were created to take responsibility for the management of hospitals and community services with the health authorities becoming the purchasers of these services for the populations they served (Ham, 1997b). Furthermore, general practitioners were able to volunteer to hold a budget (known as GP fund-holding) to purchase services from the trusts as an attempt to lever change with the thought that GPs had more ability to do so than local health authorities (Dixon, 1998). One significant aspect of this reform was that entry into the GP fund-holding scheme and becoming an NHS trust was discretionary and not mandatory thus making the more reform enthusiastic parties who were likely to be product champions to take up the exercise (Dixon, 1998). By the mid to late 90s all providers became NHS trusts, some health authorities merged with each other and all of them merged with local family health service authorities, and the GP fund-holding schemes evolved with almost half the UK population covered by such practices (Dixon, 1998).

However, in 1997 with the election of a new government, a new wave of reforms to the NHS was introduced. The previous reforms of yearly contracts and GP fund-holding processes were abolished and an emphasis on cooperation among providers and purchasers rather than competition was encouraged (Dixon, 1998). Longer term health improvement programmes were introduced with a rationale of reducing management and administration costs, but the purchaser provider split was kept intact (Dixon, 1998). Funding for health authorities provided on a weighted capitation formula based on a calculation of need and accounted for some 75% of the total NHS budget (Morris, 2000). A new group of purchasers known as the primary health care groups and trusts (PCGs/PCTs) were introduced and are financed by their parent health authority (Morris, 2000). NHS trusts remained the main providers but do not receive direct financial allocations, instead operate on an income and expenditure basis where income is obtained through service contracts with PCGs and PCTs,

training and education of health professionals and other income generating schemes (Morris, 2000).

As alluded to previously, this method of funding health care through general taxation is deemed the most equitable system (Wagstaff et al, 1992). However, on important fact to note is that taxation based systems are at a high risk of becoming underfinanced (Abel-Smith, 1995). For instance, The most frequently used bases for comparing international health care resources are healthcare expenditures either per capita or as a fraction of the gross domestic product (GDP) (Anell and Willis, 2000) and when the United Kingdom is compared to countries in the Organisation of Economic Cooperation and Development (OECD), it does not fair that well. According the OECD statistics (2001a), the total expenditure on health as a percentage of Gross Domestic Product (GDP) in the UK is 6.8 and lies in the bottom half of the league among the 30 countries with the US topping the list in 1998. In terms of public spending as a percentage of GDP, the UK contributes some 5.7 percent of the overall 6.8 (OECD, 2001b) indicating the relatively small private sector expenditure on healthcare. However, according to the World Health Organisation (WHO) the UK is one of the leaders in achieving fairness in financial contributions ranking 8-11 among a league of 191 countries studied (WHO, 2001). And on health system performance, UK was ranked 18th and faired extremely well in health distribution score with a rank of 2 (WHO, 2001). It can be said that there is some reflection of the strengths of taxation based funding in terms of fairness in financing and health distribution, but there is not much of a relationship between health levels and the financing system.

Despite these differences, it is generally agreed that the split between provider and purchaser and the contract for service model were desirable innovations for the system that should be retained for future development and is evident in the Labour reforms (Le Grand et al, 1998). Although GP fund-holding was abolished, it showed to be efficient and effective and the new GP-led commissioning organisations, the PCGs and PCTs, are very much similar to the total purchasing and fund-holding groups in previous reforms and thus the

potential for competition still remains in the system (Le Grand et al, 1998). However, Le Grand et al (1998) argue that the management and administration of well developed primary care groups will lead to difficulties in containing costs.

4.3.2 The United States of America

The United States healthcare system, perhaps, is the one system where a market model of utility and competition were dominant throughout history where private finance based on voluntary insurance or direct payments largely used (Ham, 1997a and Ranade, 1998a). As early as the 1910s, the US system was dominated by out-of-pocket payments, employer-sponsorships and private insurance (Kirkman-Liff, 1997). However, for a good part of the last century, the US healthcare reform agenda did not bring about major structural reform but resulted in minor incremental reforms (Kirkman-Liff, 1997). In the 1930s, government attempts to intervene in healthcare financing reform was rejected but in the 1960s, a major incremental reform was brought to the system by the introduction of Medicare and Medicaid in an attempt to provide universal coverage by including the poor and the elderly (Kirkman-Liff, 1997).

Medicare is a federal programme for Americans over the age of 65 and certain categories of disabled people which cover physician services, hospital care and a limited number of days in skilled nursing care facilities (Reinhardt, 1995a). Since eligibility for Medicare benefits is strictly age related and not based on income, those who are covered under this programme have extra burdens of cost sharing via deductibles, coinsurance or extra billing by physicians for those charges not covered by the scheme (Reinhardt, 1995a). The Medicaid programme, on the other hand, is funded by both the federal and the state governments, with the federal government bearing a larger share of expenses and covers the low-income Americans irrespective of their age (Reinhardt, 1995a). According to Reinhardt (1995a), under federal law, states participating in the Medicaid programme should provide 'first-dollar' coverage for hospital and physician services as well as care in skilled nursing facilities as per the Medicare scheme. However, many states offer additional benefits such as

prescription drugs (Reinhardt, 1995a) and the extent and amount of this extra coverage differs from state to state (Kirkman-Liff, 1997).

Thus, traditionally, in the US healthcare system, services were provided by self-employed doctors who charge on a fee-for-service (FFS) basis and predominantly by private hospitals operated on for-profit or not-for-profit basis (Robinson and Steiner, 1998). In this FFS system, also called the 'guild free-choice' (Weller, 1986), doctors and other providers charge a third-party intermediary, usually an insurance company or from the government in the case of elderly and low-income people covered by the Medicare and Medicaid programmes (Robinson and Steiner, 1998). Enrolees of these insurance companies (or employers acting on their behalf) pay monthly or yearly insurance premiums fro their healthcare coverage and in addition some form of co-payment at the point of service (Robinson and Steiner, 1998).

However in the 1970s, the combination of Medicare, Medicaid and the employment-linked coverage systems lead to extreme escalation in costs and reforms were required to contain them (Kirkman-Liff, 1997). This uncontrolled growth of costs and, and evidence that prepaid group practices could provide comparable care at much lower costs lead to the expansion of prepaid group practices i.e. managed care as a process to control costs (Luft, cited by Fairfield et al, 1997). Essentially managed care organisations (MCOs) are based upon a health benefit intermediary (HBI) organisation that act as an insurer or purchaser of services on behalf of individual members and organisations such as employers or Medicare and Medicaid schemes (Robinson and Steiner, 1998). According to Robinson and Steiner (1998), different forms of managed care are distinguished by the extent to which providers deal exclusively or non-exclusively with a particular HBI and to the extent of integration between the HBI and service provider functions. Today, the United States has a variety of different managed care structures that some writes describe it as an "unintelligible alphabet soup of three letter health plans" (Weiner and De Lissovoy, 1992). However, the health maintenance organisations (HMO) and

preferred provider organisations (PPO) are the two basic organisational settings where managed care is delivered (Fairfield et al, 1997).

Health maintenance organisations are prepaid organised delivery systems where a fixed amount of money is available to cover the health needs of its members and therefore assumes financial risk and may sometimes transfer the risk to doctors and other providers (Fairfield et al, 1997). Although with some restrictions to choice, HMOs seek to control costs without compromising quality or outcomes and a variety of different HMOs emerged with minor differences (Robinson and Steiner, 1998). In fact HMOs date back to the 1930s and 1940s when the concept was first introduced in California, Seattle and New York (Starr, 1982) however it was in the 1980s, in response to cost inflations associated with FFS-based insurance that the number of enrolees and plans started to grow (Robinson and Steiner, 1998). The impact of HMOs lead to the emergence of other healthcare organisations such as the PPOs where insurance plans are offered at lower premiums by negotiating fee-for-service discounts with specified providers in return for a guaranteed volume of work within a utilisation-controlled environment (Fairfield et al, 1997 and Robinson and Steiner, 1998). However, despite this large, economically preferred, mix of purchasers and providers and market competition, almost all American healthcare reform proposals echoed a transformation towards a national health insurance scheme (Kirkman-Liff, 1997, Marmor, 1998 and Eastaugh, 2001).

The American health system is regarded the most expensive of all systems. In the US, almost 13 percent of the GDP is drained to the health system with only a small amount of public expenditure sharing an almost similar amount to the UK with 5.8 percent (OECD, 2001a and 2001b). This represents the large private sector investment on health in the US. However, despite spending most of its GDP on health than any other country, the US health system was ranked 37 in the WHO analysis. Although ranked 1st in responsiveness level (perhaps a feature of the market) US faired equal to the UK in distribution and had an extremely lower rank of 54-55 in terms of fairness in financing. These statistics perhaps show that the market mechanism, although efficient, is highly unequal

and limits access to the system. In fact, the premise that managed care is successful in containing the notorious growth in American healthcare costs is up for questioning. Some critics argue that spiralling of healthcare costs resulted in government intervention and regulation of HMOs rather than leaving the market to decide on its transactions (McMaken, 2001) but on close inspection the claims about its costs and quality are based on partial and/or anecdotal evidence, or on some form of vested interests (Robinson and Steiner, 1998).

4.3.3 The Federal Republic of Germany

Germany is the pioneering nation that introduced national health insurance or the 'Bismarck' model as the main strategy for financing healthcare in 1883 known as the '*Gesetzliche Krankenversicherung*' or GKV (Freeman, 1998 and Eastaugh, 2000). This German model can be described a mix of the totally government regulated 'Beveridge' model and the highly unregulated privatised market model of healthcare where it operates in a spectrum of largely private provision driven by clear government regulations (Reinhardt, 1995b). Unlike the US, virtually the entire German population has comprehensive insurance coverage for a wide range of benefits that include ambulatory physician care, all inpatient care, prescription drugs, dentistry, medical supplies and appliances, and even the '*Kuren*' (recreational stays in health spas following major bouts of illnesses or exhaustion) and till the 1998 reforms, taxi fares for the elderly (Reinhardt, 1995b, Schwartz and Busse, 1997 and Freeman, 1998).

The statutory health insurance system in Germany is composed of fiscally independent, self-governing, not-for-profit sickness funds serving a specific area, or the workers of a particular firm, or members of a particular trade or craft collectively known as the '*Reichsversicherungsordnung*' or the RVO funds (Reinhardt, 1995b). Membership of a sickness fund is compulsory for all workers whose gross income does not exceed a certain level and voluntary for those above that level and the self-employed (Schwartz and Busse, 1997). The contributions or premiums are financed in equal shares by employees and employers and are paid on earning up to this fixed ceiling (Freeman, 1998). The operation of these funds, including benefit packages as well as underwriting and reimbursement practices are tightly regulated by a federal

insurance statute, the RVO, which is amended repeatedly to adapt to the changing demographic and economic conditions, but managed within the private sector (Reinhardt, 1995b).

The German system has throughout its existence, had a split between the purchasers and providers with the RVO funds on the purchasing side and the physicians' and dentists' associations in charge of provision (Schwartz and Busse, 1997). Another unique feature of this system is a split between ambulatory and hospital services with hospitals providing very little outpatient care (Freeman, 1998). The physicians' and dentists' associations are corporate institutions with a monopoly in the provision on ambulatory care providing state-wide services for all medical specialties, and they receive a fixed budget from RVO funds that are distributed among its members (Schwartz and Busse, 1997). The hospital sector on the other hand, does not have any such corporate affiliations and hence contract individually with sickness funds' organisations which pose a real threat to cost-containment in this sector (Schwartz and Busse, 1997). The RVO or the sickness funds in their role as purchasing organisations negotiate with the providers for price agreements in an attempt to promote competition (Schwartz and Busse, 1997 and Freeman, 1998). In this process, an expenditure cap is negotiated on annual basis and once agreed, a total budget is handed to the physicians association by the RVO funds, which then is disbursed to their members on a FFS basis (Reinhardt, 1995b). Similarly in case of hospital funding, the RVO funds undertake a negotiation process whereby each hospital receives a predetermined, binding per diem based on approved, projected line-item operating budgets (Reinhardt, 1995b). However, Germany has proposed reform on all global budgets in year 2001. Firstly, global fixed budgets for hospitals are to be made more flexible negotiated-target budgets, and teaching hospital payments to be based on the American DRG-adjusted case mix budgets (Busses and Wismar, 2000). Furthermore, both ambulatory care and pharmaceutical budgets are also to be made more flexible (Busses and Wismar, 2000).

Although Germany has the most stringent global budget system (Eastaugh, 2000), it is one of the most expensive as well. Germany is ranked 3rd behind the US and Switzerland, spending over 10 percent of its GDP on healthcare among OECD countries (OECD, 2001a). Furthermore, public expenditure as percentage of GDP on health totals 7.8 percent which is the highest among all OECD countries (OECD, 2001b). As per health systems performance, Germany fairs quite well with a ranking of 25 which is in between the UK and the US. Germany has done extremely well in terms of responsiveness level and in fairness in financial contributions with ranks of 5 and 6-7 respectively (WHO, 2001). Although less progressive than the tax-based financing systems (Wagstaff et al, 1992 and Wagstaff et al, 1999), compulsory social insurance schemes are advocated, along with the tax-based system as a potential option for financing health care (Kmietowicz, 2000).

4.4 Lesser-developed countries

One of the main limitations for exploring healthcare financing mechanisms in lesser-developed countries is the scarcity of published literature on the topic. However, it can be said that the above described financing schemes and/or variations and derivatives of these systems are the main direction of reforms. The following analysis highlights systems placed in some lesser-developed countries.

For instance, Thailand employs a complex system of healthcare financing where six different schemes seek to share risk and redistribute contingencies (Reisman, 1999). It consists of the Civil Servant Medical Benefit Scheme (CSMBS) covering public sector employees and six dependants including spouse, parent and up to three children under 18 years of age and is funded through general taxation (Reisman, 1999). Secondly, the Workmen's Compensation Scheme (WCS) is an occupational liability scheme that covers private employees with ten or more employees and is obligatory where the employees do not have to make any contributions (Reisman, 1999). The Social Security Scheme (SSS) and private insurance are two further schemes in operation. According to Reisman (1999) membership in the SSS is compulsory for all private firms employing ten or more staff and covers very basic services

and furthermore, it duplicates membership in the WCS. Although the benefits for a person covered are sizeable, the impact of private insurance though is very small due to the different schemes in operation and hence is purchased a voluntary add-on (Reisman, 1999). In addition to this, the health card programme is designed to assist the less-advantaged, especially in the rural areas who are under protected by the CSMBS, CWS and SSS and membership is voluntary, immediate and unqualified (Reisman, 1999). Payment in the Health Card system is reimbursed to the hospital on a fee-for-service basis to the hospital and card holders are only eligible for treatment in public sector hospitals (Reisman, 1999). Finally, a social welfare health insurance scheme supports the indigent people who cannot pay contributions to any of the above prescribed systems for whom basic health care is provided free under this scheme (Reisman, 1999). Further to these mechanisms, a significant percentage is spent as out-of-pocket payments, largely for self-prescribed pharmaceuticals, however, Reisman (1999) argues that Thailand does not need a system as complex as this but private insurance and social health insurance are the only two mechanisms required to ensure efficient and equal coverage for the population.

In Tanzania, traditionally all public medical services were provided free by the government until a user fee system was introduced shifting part of the burden of financing healthcare to the community (Muela et al, 2000). The major difference in payment modalities in Tanzania though relate to the type of treatment that a person decides to get, i.e. a choice between public hospital treatment and the large network of traditional medical practices within the country. Hospitals have a pre-determined fixed rate for its services that are payable in advance of the treatment in cash leading to a predominantly out-of-pocket payment system which is subsidised by the government (Muela et al, 2000). In case of the traditional services, patients are charged during or after treatment and payments can be made in cash, kind and labour work or on a credit basis and the prices are negotiable according to the ability to pay (Muela et al, 2000). Muela et al (2000) argues that this latter method of payment enables patient to cope much better with the expenses for seeking healthcare.

Since the early 1980s, China has undergone transformations in its state owned, provided and financed healthcare system (Wong and Chiu, 1998). Currently there are two major groups of patients, insured and self-financing and hospitals are given authority in fixing prices for the different groups of patients (Wong and Chiu, 1998). Some organisations make contracts with hospitals to cover their employees and others allocate a fixed sum per employee per annum and the employee is responsible to bear any amount overspent. Whereas other employers have a dual system where a portion of the funds are pooled for reimbursement in case of overspending and the other portion allocated per employee per annum. In this system, employees are allowed to accumulate any unspent balance from the previous year to the following where by the funds can grow thus encouraging saving for healthcare (Wong and Chiu, 1998). Many quasi-public health insurance schemes have also emerged in recent years especially in the urban areas of China (Wong and Chiu, 1998).

In the Philippines, private payment for healthcare is quite high and direct household payments and employment benefits are the main mechanisms financing healthcare (Reisman, 1996). About 46% of households depended entirely on their families to meet the cost of healthcare and thus causes inequity and disincentives to seek care (Reisman, 1996). Some bear the costs by payments through self-help groups who raise funds from donations from charities, donors and other fund raising activities. Private insurance constituted only 1.6% of the healthcare expenditure mainly through a system if HMOs similar to that in the United States (Reisman, 1996). Furthermore, some firms employ their own doctors and nurses and provide on-site healthcare. Taxation covers the expenses of over 85% of publicly provided services through a mechanism of direct provision and a social insurance scheme – Medicare (Reisman, 1996).

Korea on the other hand has a history of fee-for-service health system similar to the US (Eastaugh, 2000). In 1989 the Korean government introduced a national health insurance scheme (Eastaugh, 2000) and by the mid 1990s about

90% of all Koreans were covered by the health insurance scheme and the remaining 10% were covered by government-initiated public assistance programmes (Yang, 1995). With a predominantly private healthcare market, the bulk of healthcare financing comes from private sources in the forms of premiums, coinsurance payments, deductibles and other kinds of user charges reimbursed to the providers based on a pre-set fee schedule (Yang, 1995).

4.5 Lessons for developing countries

Healthcare financing reform has been on the agenda of developing countries for years. Brazil, Jamaica, Somalia, China and Peru all had their financing mechanisms under reform during the mid 1980s (World Bank, 1987). However, most countries do not explicitly address the health financing predicament until they are faced with the prospect of establishing some form of universal insurance scheme and/or a comprehensive financial coverage for the population (Martins and Dunlop, 1995). There has been a lack of strategic planning before the implementation process by the relevant authorities until some implications of the existing financial policy surface in the process of working through a nationally defined insurance scheme (Martins and Dunlop, 1995).

Furthermore, evidence suggests that there is constant tension between the notions of equity in terms of coverage, access and financing as well as affordability, efficiency in resource use and consumer choice and thus countervailing forces emerge with every new policy direction leading to more adjustments in the system (Matins and Dunlop, 1995). In view of some writers, these controversies may even adversely affect the public health function of the population (Catalano and Hansen, 2001). Hand in hand with financial reforms, it is critical to increase resources for health systems in order to improve the health poor countries. It is estimated that an investment of some $6billion a year is required to bring the countries with the lowest health expenditure to a threshold of good efficiency (Evans et al, 2001). This increase can be achieved by using current resources efficiently by reducing waste and allocating resources more appropriately (Evans et al, 2001). For instance in the Mexican reforms of 1995, a very modest package of services were introduced funded by external loans by which over 90% of the population were covered in 4 years

and when 100% coverage is achieved, the Mexican government is obliged to finance this modest but universal package (Daniels et al, 2000).

Thus, it can be said that strategic policy planning, modest targets and efficient use of available funds is critical for countries that embark on the difficult task of introducing health insurance. Although there maybe a conflict of interest in achieving all social aspects of care such as access and efficiency (Martins and Dunlop, 1995) the German experience eludes to the fact that universal coverage can be achieved even without having the financing for such a system to flow through the public budget (Reinhardt, 1995b). Furthermore, the importance of stringent regulation of the health insurance market in order to maintain horizontal equity in financing and distribution is apparent in the German system (Reinhardt, 1995b). Lessons from the British experience suggest that a health service financed on national taxation has the risk of being underfinanced, although referral restrictions from GPs to specialists or hospitals have proven to be economical (Abel-Smith, 1995).

Chapter 5

Financing Reforms for the Maldives

5 Reforms for the Maldives

In most western countries, healthcare reforms in the last two decades have incorporated market ideologies, language, principles and practices with the rationale to increase efficiency and to put a break on escalating healthcare costs (Richards, 1996). It also promoted private sector funding and provision of services and increased sharing of costs by patients resulting in a public-private mix (Richards, 1996). Given the extraordinary diversity of health system organizations, economists influenced health policies with basic utility models; for example, if consumers are perfectly informed and providers are competitive then user fees will enhance efficiency (World Bank, 1987). Similarly, health systems in developing and transitional countries have been subjected to a variety of pressures leading to a number of reforms. The structure and organisation of the provision of health services has been re-examined, and the ideological orientations of the systems are questioned more frequently (McPake and Kutzin, 1997) reflecting a new context where healthcare reform is the fashion of proceedings.

5.1 Prospect for introducing health insurance

As evident from previous analysis, it can be argued that implementing a financing system may not necessarily improve the health of the people. For instance, the scattered and small settlements pose major hurdles to access healthcare. Furthermore, the quality and availability of services can also be questioned. In addition, Cockcroft and Pearson (2000) and Salih and Waheed (2000) outlines a number of barriers such as travel, availability of board and lodging as barriers to seeking care. Despite these facts, it can be argued that, implementing a structured financial system in the country is crucial for improving the health of the population. The system may not directly correlate to health improvement, but it will narrow many of the barriers stopping people from seeking care. For instance, premiums would help reduce the burden on households for direct payments on every episode of care. Furthermore, these premiums could cover the cost of transport and lodging or even if it may not be covered, will enable patients to contribute towards these costs from savings which otherwise would be paid for the services.

5.1.1 Strengths, weaknesses, opportunities and threats

The major strength of the current system is the fact there good policy direction as to what the reforms should aim towards achieving. The ten-year health master plan (MOH, 1998a) was the main document that addressed the issue of health insurance and efficiency. The policy states that it will develop a sustainable system by efficient resource utilisation and alternative financing mechanisms such as health insurance and user fees, and seek partnerships with the private sector while regulating it (MOH, 1998a) – an orientation towards partnerships with private sector to improve efficiency but with regulations that may not facilitate the market structure. However, no evidence of introducing health insurance or regulating the existing market is apparent. Stronger commitments were shown by the president in 1999 with a reform policy in all economic and social sectors (Gayoom, 1999) stating that

> "Good quality medical care will be available to all citizens in the area in which they live, and will have easy access to a health insurance scheme that will enable them to meet their medical expenses"

The existence of a referral system and the fact that primary care remains free is strength since these services can be incorporated easily into an insurance scheme. Willingness to pay for healthcare and both the public and private system providing medical allowance are further strengths in the system.

The weaknesses in the system would have a greater impact hindering the process. Firstly, the lack of taxation and the lack of a legal framework have major implications. Apart from this the lack of legal frameworks on other aspects of healthcare such as patient and practitioner protection also poses hurdles. There is also a lack of treatment and drug standardisation mechanisms which once again pose some hindrances. One other factor would include the lack of awareness among the public on issues of insurance and its benefits. Moreover, the low pay scale in the public sector further complicates the matter.

On the other hand, there are great opportunities for reform existing in the system. In terms of legislative matters, the fact that the requirement to cover medical expenses for work related accidents and injuries under the employment regulations (MHREL, 2001) and the proposal to develop a legislative framework

for health insurance in the sixth NDP (MPND, 2002a) provide an avenue to build onto a fully structured legislative framework. In the public sector the current provident fund scheme and the medical allowance scheme as well as pensions and long term service allowances impart great advantage for reform towards the development of social security as well as insurance.

The greatest opportunity though lies in the fact that there are a number of existing financing mechanisms. In the public domain, provisions under the welfare scheme and in the private sector, the large number of schemes that already provide healthcare benefits to employees. Furthermore, the willingness from private facilities to provide healthcare on contractual basis, such as that in the private hospital (Sutadji, 1999) is potentially advantageous. In addition, insurance companies already operating in the country, to some extent offer health insurance for companies and have planned to introduce more structured packages (Thowfeeq, 2002).

A threat to the system though however, could be a possible reluctance to accept change of this calibre from the public as well as attraction of political alliance, especially if direct premiums or taxation may be considered. Decreasing aid and grants as well as the annual escalation of health expenditure pose additional threats. Moral hazard on the side of general practitioners may have a greater negative impact to the system since many such practitioners own their pharmacies. Furthermore, a large number of self-employed people in the fishing, carpentry and masonry industries (MPND, 2001a), especially in the rural areas may not be able to access the insurance scheme.

5.2 Suitability of different systems

In proposing an insurance system for the Maldives, it is imperative that the major three financing mechanisms discussed in the literature, namely the public finance through general taxation, public finance through social insurance and the private finance based on voluntary insurance, be analysed in a Maldivian context. In the meantime, it should also be taken into consideration that one such system alone may not be solve the financing problem, but supplementary

mechanisms such as, direct payments and/or private payments could complement the chosen system to make it more efficient and accessible.

5.2.1 Public finance through general taxation

In terms of this option, the existing system in the Maldives can be said to have limited scope for improvement, despite the fact that this system is considered the most equitable (Wagstaff et al, 1992). Although the current system is predominantly financed through indirect tax, the fragile economic situation (MPND, 2002a) may have long term implications for continuous provision of healthcare through indirect taxation. Furthermore, the lack of direct taxation pose a major hurdle for the introduction of a tax based system. Introducing a healthcare levy or any other form of direct taxation would prove beneficial but may face great political and public opposition. On the other hand, the government provident fund and the welfare system can easily be structured to generate a pool of money to top up the current indirect taxation revenue allocated for healthcare. Furthermore, a percentage of pension payments can also be raised towards healthcare. In generating initial capital for public financing, the Mexican approach in 1995 (Daniels et al, 2000) can be considered. The health sector can design a modest package of services to be incorporated in the scheme and foreign loans and grants from the not so efficiently implemented health projects can be diverted to the scheme to further top up capital.

However, implementation of such a system may require a number of structural reforms in the public sector. For instance this would induce greater costs for administering as well as managing the scheme. Furthermore, the operations of the private market based general practitioner system may pose hazards to the system in the form of over consultation and treatment in a bid to increase profits. Streamlining this system to something like the UK where the self-employed GPs are salaried would require further legislation on top of the required insurance legislations. Furthermore, since majority of these practitioners are employed by the public system, it poses a double burden of salary payments and meeting the insurance claims in their private practices. In addition to this, some people in the community may get the benefits of two

different schemes. For instance, those people who are already covered by an employment based system would enjoy the benefits of being sheltered by the national scheme as well, as evident from the experiences of the Thai system (Reisman, 1999).

5.2.2 Public finance through social insurance

It is evident that payment mechanisms such as the reimbursement as well as the contract model (appendix 8.12) used in some of the European countries already exists in the Maldives. Thus, this method of financing could be implemented in the Maldives, but not in a manner or scale as that in the European countries where it has been in practice for many years. There is an opportunity here since insurance companies, although the main company is a GoM joint venture, operates on a competitive market basis. The introduction of health insurance will enable the insurance market to grow further, perhaps some companies solely for the purpose. These insurance companies would act in a similar arrangement to those independent RVO funds in Germany (Reinhardt, 1995b). Furthermore, this would not require additional legislation since these companies will be governed according to the Companies Act (MTI, 2001) already in place.

Once again, in the initial stages of such a process, the GoM will have to develop a sound regulatory framework for implementation. The existing payment mechanisms within the private sector companies can be restructured to pay premiums instead of self management and administration of the schemes. Similarly in the public sector, existing mechanisms such as the medical allowances and provident fund collections can be diverted to pay premiums. This has got a significant advantage for the employers since there would be a notable reduction in the administrative costs for independent management of these schemes. Furthermore, in case of the public system, utilisation of provident fund collections could prove to be advantageous in the absence of direct taxes. This introduces the concept of contribution towards healthcare without the implementation of a direct income tax since employees already contribute towards this fund. However, if this type of reform needs to be implemented, participation in the provident fund scheme should be made

mandatory. Moreover, there may once gain be some difficulties in making the scheme accessible to those who are self-employed.

5.2.3 Private finance based on voluntary insurance

It can be argued that this form of financing is non-existent in the Maldives. Although majority of the services are charged on an out-of-pocket payment basis, voluntary insurance has not been practiced in the country as evident from the preceding research. It can be further said that this form of financing has extremely limited scope in the country. For instance, Thowfeeq (2002) stated that the market for private individual insurance would not have a market due to low pay scales and high living standards in the country and hence insurance companies are reluctant to introduce such a system at present. Despite this threat, some companies have embarked on insuring their staff against work related accidents and injuries (Hameed, 2002 and Sutadji, 1999).

Some writers have suggested that there may be scope for private contractual mechanisms where institutions can act as HMOs similar to that in the United States, to provide a basic package of care (Sutadji, 1999). However, most facilities suited to such operations being private providers this could prove to be overly expensive and inaccessible to many clients.

5.3 Proposed framework

In light of the above analysis, it can be deduced that the Maldives would benefit largely from a system that reflect public financing through social insurance. However, some form of social security and private insurance should also be incorporated to supplement the scheme enabling the self-employed and the poor access to the system. The following reforms are proposed for the initiation of the scheme. It is important to note that these reforms would require further adjustment and detailed research before it could be fully implemented.

5.3.1 Regulatory reforms

As reiterated continuously, the first step towards financing reforms would be to develop a comprehensive legislative framework incorporating health insurance. This could take the form of a health insurance Act detailing the reforms and its implementation. Under this framework, provision of health cover for employees

should be made mandatory for all companies. The labour regulations and the Companies Act should thus be amended to reflect these reforms. This mandatory requirement will be the cornerstone for health insurance. Hand in hand with this Act, other related legislative measures such as consumer and provider protection laws are also important for the full functioning of the system. These requirements though are already being developed under the sixth NDP (MPND, 2002a).

5.3.2 Administrative reforms

Under the administrative reforms, the first step would be the standardisation of charges. Unlike the present charges the new charges should reflect the cost of provision and should be adjusted for inflation accordingly. Secondly, in the public sector, the existing medical allowance scheme should be adjusted to reflect risk sharing, i.e. handing out of payments should be abolished and the money should be diverted towards insurance premiums. As per the provident fund scheme, participation should be made mandatory for all government employees and these collections should be used to fund the scheme. All other organisations should forward premiums through their employment benefits to a chosen insurance company.

Furthermore, a basic healthcare package needs to be identified. This exercise could follow in the lines of the Oregon plan implemented in 1994 (OHSC, 1991) or perhaps the Dunning Committee recommendations in the Netherlands (Dunning, 1992). Appendix 8.13 shows an illustration of the Dunning experiment. This basic care package will be then covered by premiums paid to the insurers both from the public sector and the private sector. Additional cover can be obtained through direct premiums.

The current welfare provisions will then become a social security scheme that supplements the insurance scheme. Provident fund collections can be utilised to pay premiums to the insurance scheme. The insurance legislation will determine who will and will not be covered under this social security scheme. Furthermore, the self-employed should be able to participate in the public sector provident fund scheme and hence covered under this scheme. Those

who choose to opt out of the scheme will have to pay direct premiums to the insurers. This type of arrangement provides choice for the consumers as well as market competition among the insurers. Appendix 8.14 illustrates this arrangement.

Chapter 6

Conclusions

6 Concluding remarks

With a small population and a fragile economy, the Maldives has been blessed with a steady growth in its economy. However, in recent years foreign debt has increased and the dependence on two major industries has increased the fragility of the nation. However, the Maldives have achieved considerable success in combating communicable diseases, but has undergone an epidemiological transition where modern lifestyle related diseases have started emerge and prevail. As a result, like many other countries of the world, health care costs have escalated and the need to sustain these costs has risen more than ever before. Despite this need, there have been only limited reforms in the health sector.

Analysis of literature brings to the conclusion that there are three major financing mechanisms predominantly used in the world. Many countries have adopted these systems with variations and adjustments to suit their purpose. It is said that public finance through taxation is the most progressive of all and private finance through voluntary insurance the most regressive. In between these two models lies the system of public finance through social insurance.

Although the Maldives have a lack of direct taxation, poor history of insurance and the weakness in legislation pause major hurdles for the process of reform, the analysis of existing financing mechanisms suggest that there is great opportunity to reform healthcare financing in the country. It is evident that a social insurance scheme where the public and private sector contribute premiums to an insurance market with a supplementary social insurance scheme would suit the Maldivian scenario. However, proper legislative and administrative reforms are required as part of the implementation of such a system. The proposed system, although may not be perfect at inception, would provide choice for consumers, a competitive market mechanism for insurance and will be accessible to the whole population in due course.

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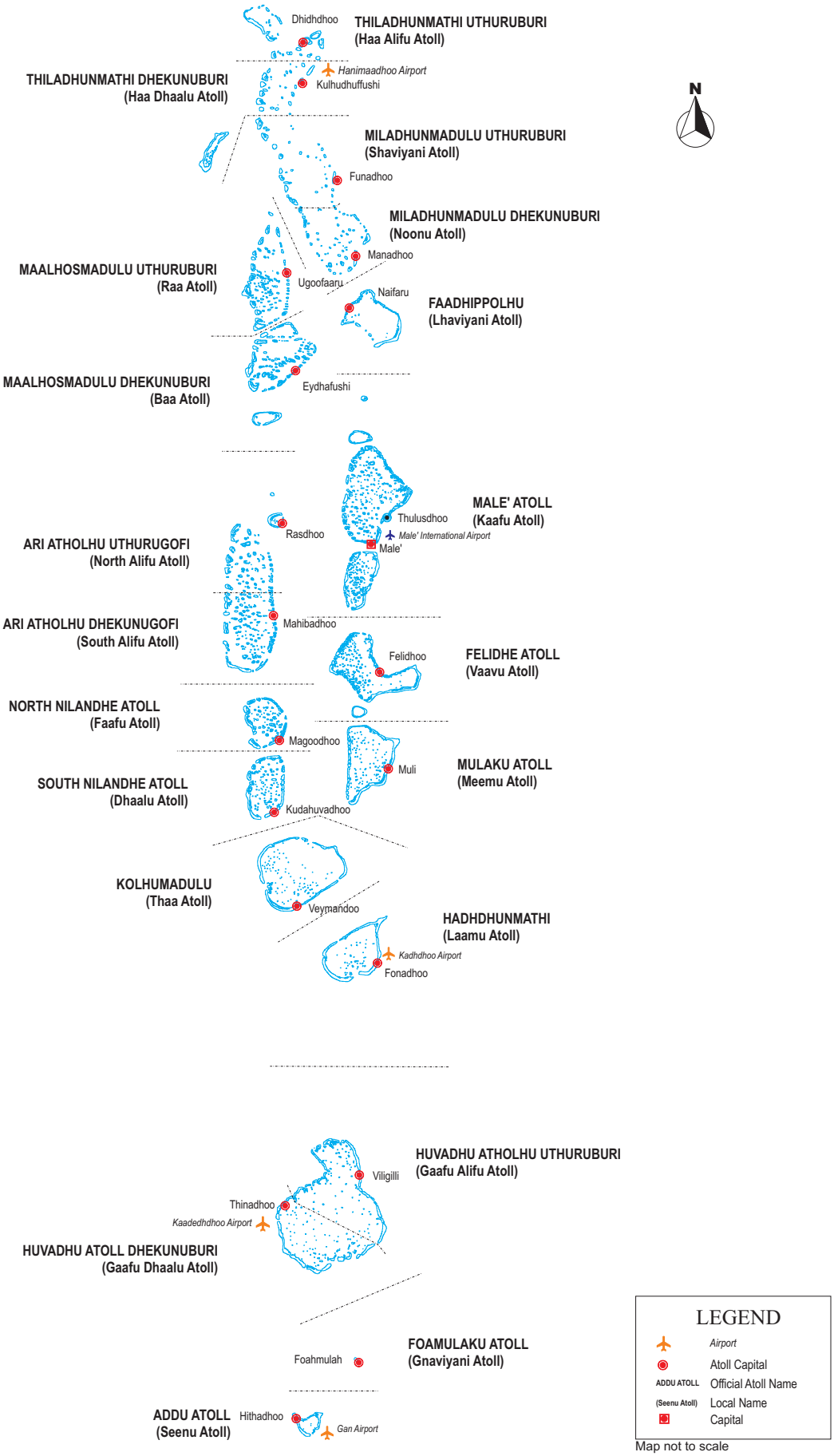
Appendices

8 Appendices

8.1 Map of the Maldives



Map not to scale

8.2 Number of Islands by Population Size

Population interval	Number of islands	Aggregate Population		
		Both Sexes	Males	Females
Republic	311	270101	137200	132901
Administrative Islands				
Total islands	200	262186	129407	132779
100-199	11	1531	733	798
200-299	15	3864	1905	1959
300-399	22	7742	3660	4082
400-499	28	12577	5996	6581
500-599	19	10381	5039	5342
600-699	14	9054	4327	4727
700-799	12	9125	4393	4732
800-899	13	11142	5600	5542
900-999	8	7472	3677	3795
1000-1499	25	30099	14615	15484
1500-1999	17	28181	14054	14127
2000-2999	9	21567	10344	11223
3000-3999	2	6919	3339	3580
4000-4999	1	4893	2387	2506
5000-9999	3	23570	10779	12791
10000 and Over	1	74069	38559	35510
Non-administrative Islands*				
Total islands	111	7915	7793	122
Less Than 100	86	3645	3609	36
100-199	19	2619	2591	28
200-299	4	995	956	39
300-399	2	656	637	19

*Non-administrative islands include tourist resorts, industrial islands and islands used for other purposes such as recreation and so forth.

(Source: MPND 2001a)

8.3 Inter-census variation in population and sex

Census year	Population			Percentage		Sex Ratio (M/100F)	Pop'n Change	Pop'n Growth Rate*
	Total	Male	Female	Male	Female			
1911	72237	39244	32993	54.3	45.7	119	-	-
1921	70413	38174	32239	54.2	45.8	118	-1824	-0.27
1931	79281	43235	36046	54.5	45.5	120	8868	1.18
1946	82068	44308	37760	54.0	46.0	117	2787	0.23
1953	77273	41656	35617	53.9	46.1	117	-4795	-0.86
1957	83075	44614	38461	53.7	46.3	116	5802	1.81
1958	87582	46888	40694	53.5	46.5	115	4507	5.28
1959	89290	47505	41785	53.2	46.8	114	1708	1.93
1960	92247	49640	42607	53.8	46.2	117	2957	3.26
1961	92793	49906	42887	53.8	46.2	116	546	0.59
1962	92744	49454	43290	53.3	46.7	114	-49	-0.05
1963	94527	50274	44253	53.2	46.8	114	1783	1.9
1964	93960	50276	43684	53.5	46.5	115	-567	-0.6
1965	97743	51964	45779	53.2	46.8	114	3783	3.95
1966	100883	53938	46945	53.5	46.5	115	3140	3.16
1967	103801	55346	48455	53.3	46.7	114	2918	2.85
1968	106969	56983	49986	53.3	46.7	114	3168	3.01
1969	110770	58897	51873	53.2	46.8	114	3801	3.49
1970	114469	60975	53494	53.3	46.7	114	3699	3.28
1971	118818	63188	55630	53.2	46.8	114	4349	3.73
1972	122673	64924	57749	52.9	47.1	112	3855	3.19
1974	128697	68301	60396	53.1	46.9	113	6024	2.4
1977	142832	75224	67608	52.7	47.3	111	14135	2.98
1985	180088	93482	86606	51.9	48.1	108	37256	3.2
1990	213215	109336	103879	51.3	48.7	105	33127	3.43
1995	244814	124622	120192	50.9	49.1	104	31599	2.73
2000	270101	137200	132901	50.8	49.2	103	25287	1.96

Note: Censuses began in 1911 and it was conducted every 10 years since 1931. Then there was some irregularity in census durations and then it was conducted every year between 1957 and 1972. There was another irregularity in census duration and then it has been conducted every 5 years since 1985.

*Population growth rate is exponential percentage increase in population per annum.

(Source: MPND, 2001a)

8.4 Definitions of Economic Concepts

1. Employment Rate

The employment rate – also known as the employment-to-population ratio, is the percentage of working-age people who have jobs (Government of Canada, 2002a).

For example in the Maldives, the year 2000 census reported a working age population (taken between 16-64 years inclusive) of 141,043 of which 70,574 are males and 70,469 are females respectively (MPND, 2001a). The employed population stood at a total of 86,245 with 57,353 and 28,894 males and females respectively (MPND, 2001a). Hence the employment rates for the whole populations and males and females are as follows:

$$EmploymentRate = \frac{P_e}{P_w} \times 100$$

Where P_e is the employed population and P_w is the working age population.

Total Employment Rate: $$ER_M = \frac{86245}{141043} \times 100 = 61.148\%$$

Male Employment Rate: $$ER_M = \frac{57353}{70574} \times 100 = 81.263\%$$

Female Employment Rate: $$ER_F = \frac{28894}{70469} \times 100 = 41.002\%$$

2. Unemployment Rate

The unemployment rate is the percentage of the labour force that actively seeks work but is unable to find work at a given time. Discouraged workers i.e. persons who are not seeking work because they believe the prospects of finding one are extremely poor are not included counted as unemployed or as part of the labour force (Government of Canada, 2002b).

$$UnemploymentRate = \frac{P_u}{P_{lf}} \times 100$$

Where P_u is the unemployed population and P_{lf} is the number of people in the labour force.

It is not possible to calculate this rate for the Maldives since labour force statistics are not available from the published census 2000 data.

8.5 Total Income by Sex and Location

Income in Rf	Number			Percentage		
	Total	Male	Female	Total	Male	Female
< 500	81339	26610	54729	50.8%	32.7%	69.4%
500-999	7967	3609	4358	5.0%	4.4%	5.5%
1000-4999	54246	37897	16349	33.9%	46.6%	20.7%
5000-9999	9074	7699	1375	5.7%	9.5%	1.7%
10000-19999	2696	2286	410	1.7%	2.8%	0.5%
20000-49999	1222	1028	194	0.8%	1.3%	0.2%
>50000	483	434	49	0.3%	0.5%	0.1%
Not Stated	3146	1705	1441	2.0%	2.1%	1.8%
Total	**160173**	**81268**	**78905**			
			URBAN			
< 500	22885	8034	14851	44.0%	29.4%	60.3%
500-999	1229	445	784	2.4%	1.6%	3.2%
1000-4999	18740	11950	6790	36.1%	43.7%	27.6%
5000-9999	4496	3669	827	8.7%	13.4%	3.4%
10000-19999	1661	1386	275	3.2%	5.1%	1.1%
20000-49999	738	620	118	1.4%	2.3%	0.5%
>50000	315	280	35	0.6%	1.0%	0.1%
Not Stated	1902	960	942	3.7%	3.5%	3.8%
Total	**51966**	**27344**	**24622**			
			RURAL			
< 500	58454	18576	39878	54.0%	34.4%	73.5%
500-999	6738	3164	3574	6.2%	5.9%	6.6%
1000-4999	35506	25947	9559	32.8%	48.1%	17.6%
5000-9999	4578	4030	548	4.2%	7.5%	1.0%
10000-19999	1035	900	135	1.0%	1.7%	0.2%
20000-49999	484	408	76	0.4%	0.8%	0.1%
>50000	168	154	14	0.2%	0.3%	0.03%
Not Stated	1244	745	499	1.1%	1.4%	0.92%
Total	**108207**	**53924**	**54283**			

(Source: MPND, 2001a)

8.6 Immunisation Coverage and Communicable Diseases

Vaccine coverage in Maldives, 1991 – 1998

YEAR	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
BCG	99%	99%	89%	98%	99%	96%	98%	99%	99%	99.5%
DPT 3	94%	98%	90%	96%	99%	96%	97%	97%	97%	98%
Polio 3	94%	98%	98%	97%	94%	95%	96%	95%	97%	98%
Measles	96%	98%	86%	96%	94%	95%	96%	98%	99%	99%
Tetanus	89%	95%	94%	94%	96%	97%	98%	94%	97%	97%

Tuberculosis situation in Maldives, 1991 – 2000 (per 1000 population)

YEAR	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total cases under treatment	676	673	443	142	163	108	115	98	73	60
Incidence rate (sputum positive)	0.55	0.41	0.58	0.51	0.5	0.45	0.39	0.35	0.35	0.25
Prevalence rate (sputum positive)	1.23	0.78	0.57	0.32	0.4	0.23	0.25	0.19	0.16	0.1
Incidence rate (sputum negative)	1.15	1.22	0.73	0.48	0.4	0.41	0.28	0.33	0.25	0.24
Prevalence rate (sputum negative)	1.84	2.13	1.28	0.25	0.26	0.2	0.19	0.18	0.12	0.12

Leprosy incidence and prevalence rates in Maldives, 1991 – 2000

YEAR	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total cases under treatment	279	265	165	152	113	71	21	17	23	21
New cases under treatment	58	57	34	35	37	26	31	18	32	27
Incidence rate /000	0.26	0.25	0.14	0.14	0.15	0.1	0.11	0.06	0.11	0.10
Prevalence rate /000	1	0.9	0.6	0.5	0.3	0.2	0.08	0.62	0.08	0.78

HIV surveillance, 1991 – 2000

YEAR	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Screened	7119	4206	4525	4814	26720	33725	30747	41312	45913	47280
Positive (National)	1	0	1	1	4	1	2	0	0	1
Positive (Foreign)	0	0	0	0	1	11	19	17	19	18

Incidence and case fatality rates for diarrhoea, 1991 – 2000

YEAR	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total cases	14387	13143	12334	15493	16202	11364	10557	11118	6566	8076
Incidence rate /'000,000 pop'n	64.4	56.94	51.7	63	65	44.4	40.8	41.6	23.7	30.02
Case fatality/'000	1.88	0.61	0.81	0.13	0.25	0.53	0.47	0.09	1.22	0.62

(Source: MOH, 2001a)

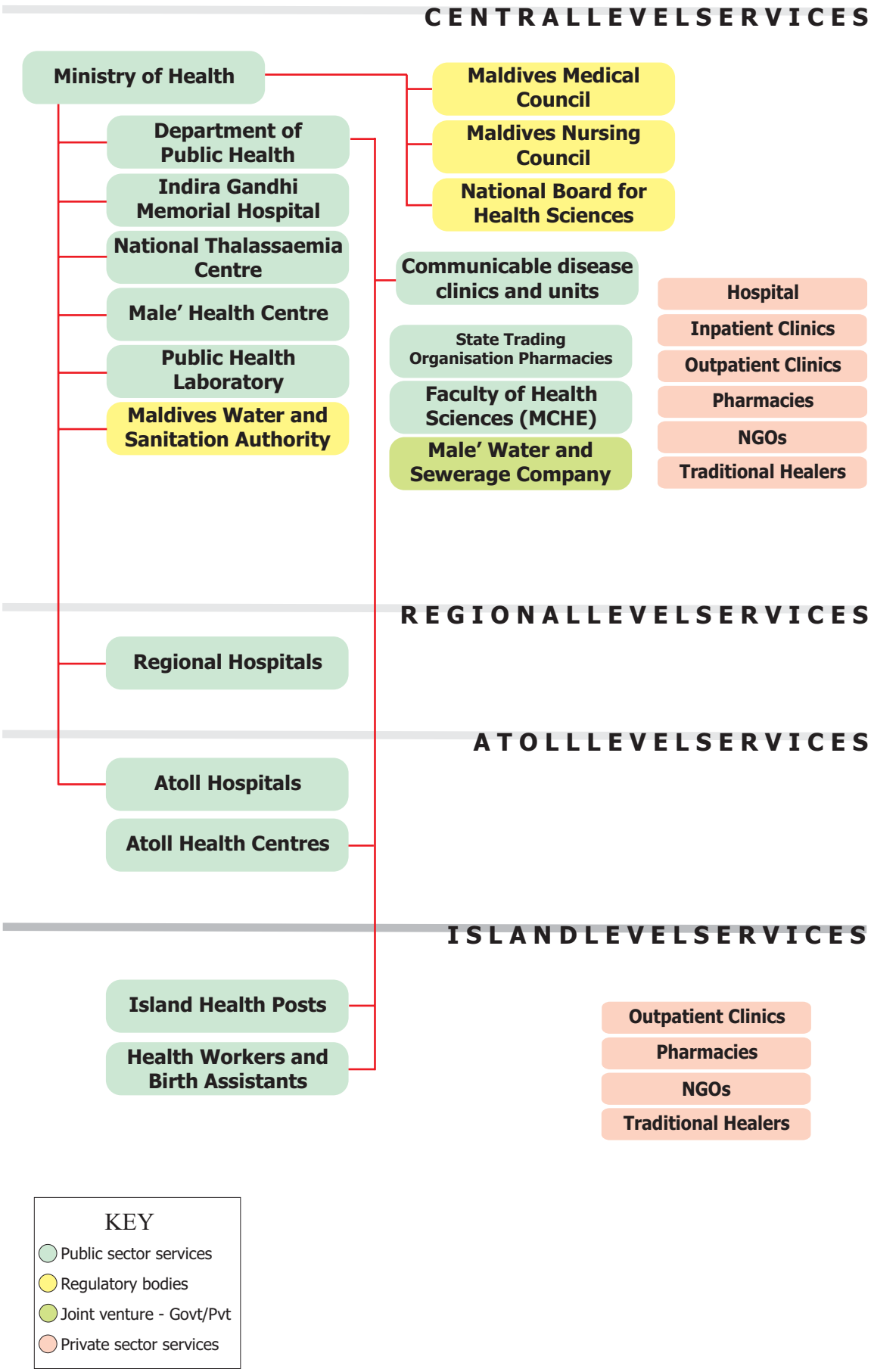
8.7 Leading Causes of Death in the Maldives

Cause specific death rate (percent) 1997 – 2000

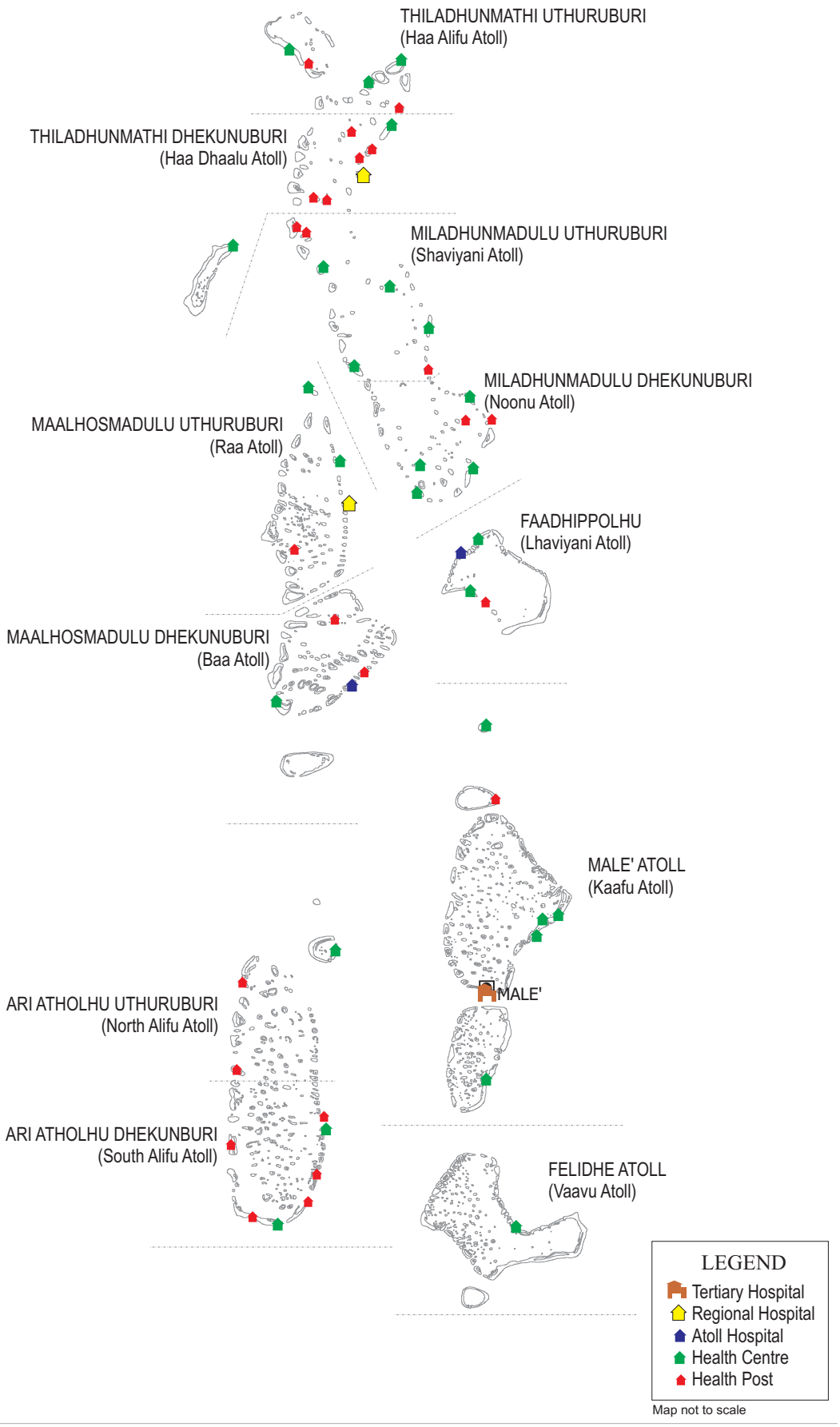
Cause of Death	1997	1998	1999	2000
Undiagnosed deaths at old age	22.04	21.05	20.9	17.2
Diseases of the circulatory system	22.38	20.96	21.9	24.9
Not stated	12.43	15.98	12.1	6.2
Respiratory diseases	9.02	8.30	9.0	9.4
Blood and blood forming organs and certain disorders involving the immune mechanism	3.57	2.53	2.2	3.3
Certain conditions originating in prenatal period	7.15	4.37	4.9	6.5
Parasitic infections	4.00	3.58	2.3	0
Diseases related to digestive system	2.55	3.06	2.1	1.8
External causes of morbidity and mortality	2.98	2.71	3.8	2.5
Clinical signs, symptoms not else where classified	0.34	0.17	0.3	1.4
Diarrhoea and gastroenteritis of presumed infectious origin.	0.43	0.17	0.8	0.5
Diseases of nervous system	1.70	4.10	2.8	4.9
Tuberculosis	1.28	0.87	1.3	1.2
Endocrine, nutritional and metabolic diseases	0.94	0.96	1.8	4.4
Diseases of genitor-urinary system	1.96	3.41	2.4	3.8
Septicaemia	1.19	0.79	1.5	1.9
Neoplasm	3.66	4.10	5.8	5.8
Pregnancy and child birth and puerperium	1.02	0.70	1.3	0.4
Vaccine preventable diseases	0.26	0.35	1.5	2.3
Congenital malformations, deformations and chromosomal abnormalities	0.51	1.05	0.4	0.4
Mental and behavioural disorders	0.17	0.26	0.9	0.4
Meningococcal infection	0.17	0.00	0.2	0.1
Vector borne diseases	0.00	0.00	0	0.3
Diseases of the skin and subcutaneous tissue	0.00	0.26	0	0
Diseases of the musculoskeletal system & connective tissue	0.26	0.26	0	0

(Source: MOH, 2001a)

8.8 Structure of the health system

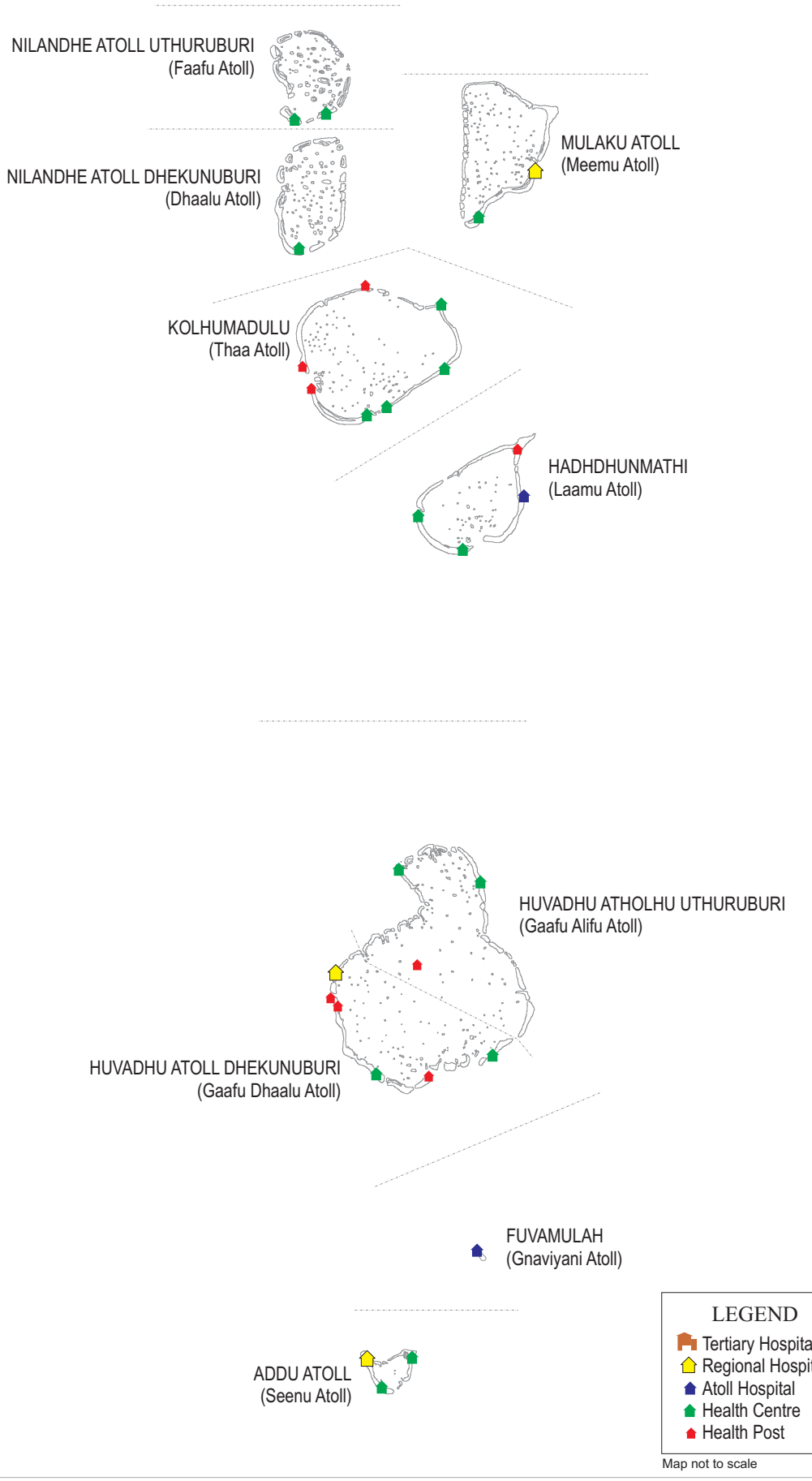


8.9 Distribution of Health Facilities (Northern Atolls)



Map not to scale

8.10 Distribution of Health Facilities (Southern Atolls)



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8.11 Concepts for International Comparisons

Goal attainment and performance of countries

Each measure of goal attainment and performance - disability-adjusted life expectancy, health equality in terms of child survival, responsiveness level, responsiveness distribution, fairness of financial contribution, performance on level of health, and overall health system performance is reported as a league table ranked from the highest level of achievement or performance to the lowest level.

Responsiveness level

The measurement of achievement in the level of responsiveness was based on a survey of nearly two thousand key informants in selected countries. Key informants were asked to evaluate the performance of their health system regarding seven elements of responsiveness: dignity, autonomy and confidentiality (jointly termed respect of persons); and prompt attention, quality of basic amenities, access to social support networks during care and choice of care provider (encompassed by the term client orientation). The elements were scored from 0 to 10. Scores on each component were combined into a composite score for responsiveness based on results of the survey on preferences for health system performance assessment. For other countries, achievement in the level of responsiveness has been estimated using indirect techniques and information on important covariates of responsiveness. To enhance the measurement of responsiveness, WHO is actively developing and field testing instruments to measure responsiveness from household respondents. This strategy of using household surveys will be supplemented with facility surveys to observe directly some components of responsiveness.

The measurement of achievement in the distribution of responsiveness reflected in is based on a very simple approach. Respondents in the key informants' survey were asked to identify groups who were disadvantaged with regard to responsiveness. The number of times a particular group was identified as disadvantaged was used to calculate a key informant intensity score. Four groups had high key informant intensity scores: poor people, women, old people, and indigenous groups or racially disadvantaged groups (in most instances minorities). The key informant intensity scores for these four groups were multiplied by the actual percentage of the population within these vulnerable groups in a country to calculate a simple measure of responsiveness inequality ranging from 0 to 1. The total score was calculated taking into account the fact that some individuals belong to more than one disadvantaged group. For other countries, achievement on the distribution of responsiveness has been estimated using indirect techniques and information on

important covariates of the distribution of responsiveness including absolute poverty and access to health care.

Fairness in financial contribution

The measurement of achievement in fairness of financial contribution starts with the concept of a household's contribution to the financing of the health system. The health financing contribution of a household is defined as the ratio of total household spending on health to its permanent income above subsistence. Total household spending on health includes payments towards the financing of the health system through income taxes, value-added tax, excise tax, social security contributions, private voluntary insurance, and out-of-pocket payments. Permanent income above subsistence is estimated for a household as total expenditure plus tax payments not included in total expenditure minus expenditure on food.

The distribution of households' financial contribution is calculated using household survey data which includes information on income (individual level) and household expenditure (by goods and services including health). In addition, the calculations require government tax documents (including information on income tax, sales tax, and property tax), national health accounts, national accounts, and government budgets. Such in-depth analysis has been completed for selected countries where such information is available. For other countries, the distribution of health financing contribution has been estimated using indirect methods and information on important covariates.

Overall health system attainment

This composite measure of achievement in the level of health, the distribution of health, the level of responsiveness, the distribution of responsiveness and fairness of financial contribution has been constructed based on weights derived from the survey of over one thousand public health practitioners from over 100 countries. The composite is constructed on a scale from 0 to 100, the maximum value. The weights on the five components are 25% level of health, 25% distribution of health, 12.5% level of responsiveness, 12.5% distribution of responsiveness and 25% fairness of financial contribution. The mean value and uncertainty intervals have been estimated for overall health system achievement using the uncertainty intervals for each of the five components. In addition, uncertainty intervals are provided for the ranks as well as the value of overall health system achievement. Rank uncertainty is not only a function of the uncertainty of the measurement for each country but also the uncertainty of the measurement of adjacent countries in the league table.

Performance on health level

The index of performance on the level of health reports how efficiently health systems translate expenditure into health as measured by disability-adjusted life expectancy (DALE). Performance on the level of health is defined as the ratio between achieved levels of health and the levels of health that could be achieved by the most efficient health system. More specifically, the numerator of the ratio is the difference between observed DALE in a country and the DALE that would be observed in the absence of a functioning modern health system given the other non-health system determinants that influence health, which are represented by education. The denominator of the ratio is the difference between the maximum possible DALE that could have been achieved for the observed levels of health expenditure per capita in each country and the DALE in the absence of a functioning health system. Econometric methods have been used to estimate the maximum DALE for a given level of health expenditure and other non-health system factors using frontier production analysis. The relationship between life expectancy and human capital at the turn of the century was used to estimate the minimum DALE that would have been expected in each country (at current levels of educational attainment) in the absence of an effective health system.

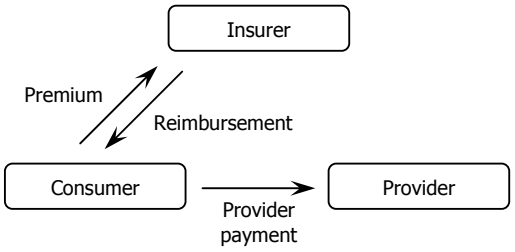
Overall performance of health systems was measured using a similar process relating overall health system achievement to health system expenditure. Maximum attainable composite goal achievement was estimated using a frontier production model relating overall health system achievement to health expenditure and other non-health system determinants represented by educational attainment. Results of this analysis were largely invariant to model specification.

Further details of these concepts and related tables can be accessed on the World Health Organization website at http://www.who.int/whr/

(Source: http://www.who.int/whr/)

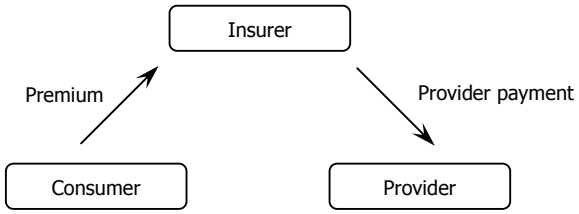
8.12 Third-party payer models of paying providers

A) Reimbursement Model



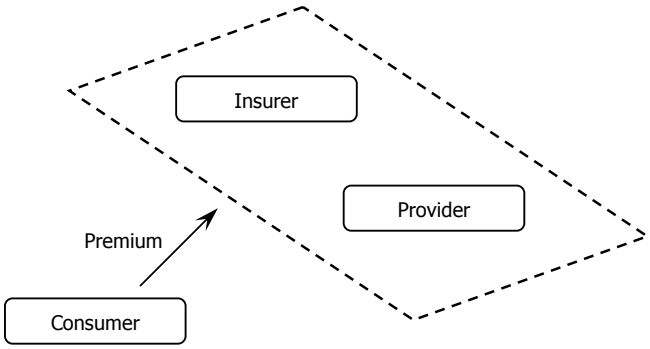
In this model consumers pay providers directly and are reimbursed by the insurer. There is no direct relationship between the insurer and the provider. Used in Belgium and France.

B) Contract Model



In this model, conversely, there is no relationship between the consumer and provider. The consumer pays premiums to the insurer, who in turn contracts with the provider. Used in the Netherlands and Germany.

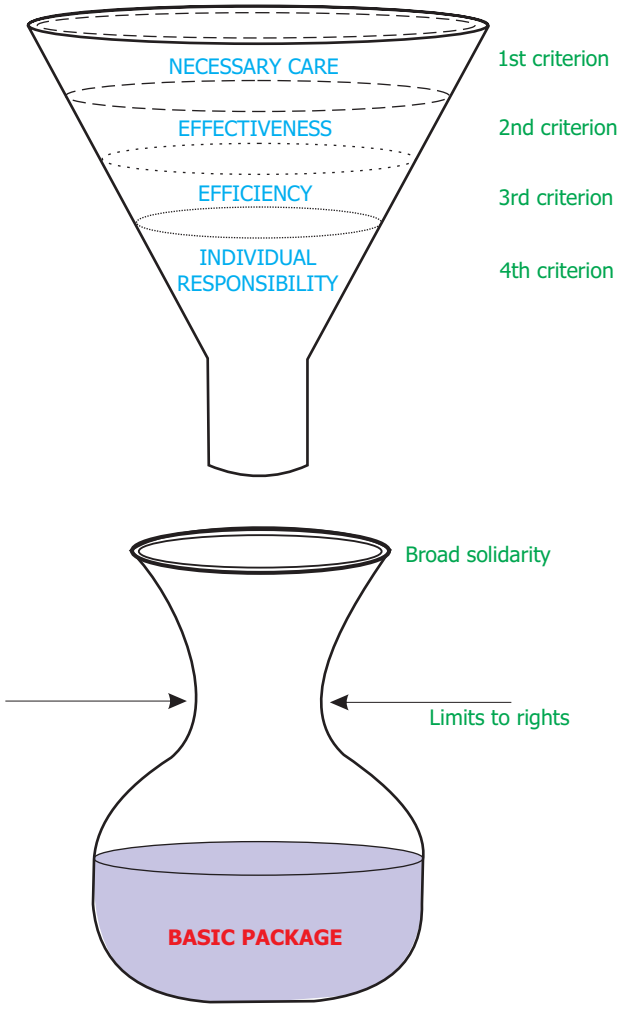
C) Integrated Model



In this vertically integrated model, the insurer directly owns and manages the providers. This model represents the UK NHS prior to changes in 1990.

(Sources: van der Ven et al. 1994 and Ranade, 1998)

8.13 The Dunning Committee's four 'sieves' for health services



In the Dunning experiment, four tests were applied to determine whether care should be included in the basic package. These tests included asking the community whether the care was necessary, whether it was efficient and effective and whether it could be left to personal responsibility. If the service passed these four tests, they would be included in the care package. If not, they were left for individuals to purchase form their own resources.

(Source: Ham and Honigsbaum, 1998)

8.14 Proposed structure for the Maldives