EMRO

# HEALTH SYSTEM PROFILE

## OMAN

Regional Health Systems Observatory
World Health Organization

2006

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# FOREWORD

Health systems are undergoing rapid change and the requirements for conforming to the new challenges of changing demographics, disease patterns, emerging and re emerging diseases coupled with rising costs of health care delivery have forced a comprehensive review of health systems and their functioning. As the countries examine their health systems in greater depth to adjust to new demands, the number and complexities of problems identified increases. Some health systems fail to provide the essential services and some are creaking under the strain of inefficient provision of services. A number of issues including governance in health, financing of health care, human resource imbalances, access and quality of health services, along with the impacts of reforms in other areas of the economies significantly affect the ability of health systems to deliver. Decision-makers at all levels need to appraise the variation in health system performance, identify factors that influence it and articulate policies that will achieve better results in a variety of settings. Meaningful, comparable information on health system performance, and on key factors that explain performance variation, can strengthen the scientific foundations of health policy at international and national levels. Comparison of performance across countries and over time can provide important insights into policies that improve performance and those that do not.

The WHO regional office for Eastern Mediterranean has taken an initiative to develop a Regional Health Systems Observatory, whose main purpose is to contribute to the improvement of health system performance and outcomes in the countries of the EM region, in terms of better health, fair financing and responsiveness of health systems. This will be achieved through the following closely inter-related functions: (i) Descriptive function that provides for an easily accessible database, that is constantly updated; (ii) Analytical function that draws lessons from success and failures and that can assist policy makers in the formulation of strategies; (iii) Prescriptive function that brings forward recommendations to policy makers; (iv) Monitoring function that focuses on aspects that can be improved; and (v) Capacity building function that aims to develop partnerships and share knowledge across the region.

One of the principal instruments for achieving the above objective is the development of health system profile of each of the member states. The EMRO Health Systems Profiles are country-based reports that provide a description and analysis of the health system and of reform initiatives in the respective countries. The profiles seek to provide comparative information to support policy-makers and analysts in the development of health systems in EMR. The profiles can be used to learn about various approaches to the organization, financing and delivery of health services; describe the process, content, and implementation of health care reform programs; highlight challenges and areas that require more in-depth analysis; and provide a tool for the dissemination of information on health systems and the exchange of experiences of reform strategies between policy-makers and analysts in different countries. These profiles have been produced by country public health experts in collaboration with the Division of Health Systems & Services Development, WHO, EMRO based on standardized templates, comprehensive guidelines and a glossary of terms developed to help compile the profiles.

A real challenge in the development of these health system profiles has been the wide variation in the availability of data on all aspects of health systems. The profiles are based on the most authentic sources of information available, which have been cited for ease of reference. For maintaining consistency and comparability in the sources of information, efforts have been made to use as a first source, the information published and available from a national source such as Ministries of Health, Finance, Labor, Welfare; National Statistics Organizations or reports of national surveys. In case information is not available from these sources then unpublished information from official sources or information published in unofficial sources are used. As a last resort, country-specific information published by international agencies and research papers published in international and local journals are used. Since health systems are dynamic and ever changing, any additional information is welcome, which after proper verification, can be put up on the website of the Regional Observatory as this is an ongoing initiative and these profiles will be updated on regular intervals. The profiles along with summaries, template, guidelines and glossary of terms are available on the EMRO HSO website at www.who.int.healthobservatory

It is hoped the member states, international agencies, academia and other stakeholders would use the information available in these profiles and actively participate to make this initiative a success. I would like to acknowledge the efforts undertaken by the Division of Health Systems and Services Development in this regard that has the potential to improve the performance of health systems in the Eastern Mediterranean Region.

Regional Director
Eastern Mediterranean Region
World Health Organization

# ACKNOWLEDGEMENTS

The Ministry of Health of the Sultanate of Oman is pleased to release this important document as a part of the Health Systems Observatory set up by the Eastern Mediterranean Office of the World Health Organization.

A preliminary draft and guidelines for preparing the health systems profile were received from EMRO. The original draft was reviewed at the highest level by HE the Minister himself and circulated to all concerned for their reviews and comments. Based on extensive reviews and additional contributions received from the Directorate Generals of the Ministry and senior advisors, the original draft was further modified, along with updated health information and relevant particulars of the Ministry's 7th 5-Year Health Development Plan and similar other documents. I am grateful to all our colleagues, who made special efforts to help improve the original draft. Contributions of Mr. Saif Mohammed Al-Nabhani (Director General of Planning, MoH-HQ) and Dr. Medhat Kamal Al-Said (Advisor, Health Information & Epidemiology, DGP) for compiling these contributions and producing the first revised draft are specially acknowledged. This draft was further reviewed by a core committee including HE Dr. Fatih Al-Samani, WHO Representative, Oman and HE Dr Ali Jaffer Mohammed, Health Affairs Advisor supervising DGHA, MoH-HQ. The core committee felt that there was a need to recast the document using a revised outline but containing all pertinent information desired by EMRO. I want to thank Drs. Al-Samani, Dr. Ali Jaffer and all core committee members for their valuable contributions. Thanks are also due to all staff of the Directorate of Health Information and Statistics (Mr. Salah Nasser Khalfan Al Muzahmi, Director) and of the Directorate of Planning (Mr. Cruz George, Manpower Planning Specialist) for providing excellent support.

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Mohammed bin Hassan bin Ali
Undersecretary for Planning Affairs
Ministry of Health, Sultanate of Oman

Muscat, 8 November 2006

# LIST OF ABBREVIATIONS

| | |
|---|---|
| AFMS | Armed Forces Medical Services |
| ANC | Antenatal care |
| BSN | Bachelor of Science in Nursing |
| CQI | Continuous Quality Improvement |
| CSG | Community Support Group |
| DG | Directorate General |
| DGET | Directorate General of Education & Training |
| DGHA | Directorate General of Health Affairs |
| DGHS | Directorate General of Health Services |
| DGMS | Directorate General of Medical Supplies |
| DGPA & DC | Directorate General of Pharmaceutical Affairs & Drug Control |
| DTPS | District Team Problem Solving |
| EHC | Extended Health Centers |
| EPI | Expanded Program for Immunization |
| FAMCO | Family and Community Medicine |
| HQ | Head Quarters |
| GCC | Gulf Cooperation Council |
| GDP | Gross Domestic Product |
| GNI | Gross National Income |
| HALE | Healthy Average Life Expectancy |
| HM | His Majesty |
| HRD | Human Resources Development |
| IMCI | Integrated Management of Childhood Illnesses |
| IMR | Infant Mortality Rate |
| IT | Information Technology |
| ITC | Information Technology and Communication |
| MoH | Ministry of Health |
| MPNHD | Managerial Process for National Health Development |
| NA | Not Available |
| NGO | Non-Government Organization |
| NWCCP | National Women and Child Care Plan |
| OMSB | Oman Medical Specialty Board |
| OPEC | Organization of Petroleum Exporting Countries |
| PDOMS | Petroleum Development Oman Medical Services |
| PEM | Protein Energy Malnutrition |

| | |
|---|---|
| PHC | Primary Health Care |
| PNC | Postnatal care |
| ROP | Royal Oman Police |
| ROPMS | Royal Oman Police Medical Services |
| RSB | Results-Based Management |
| SQU | Sultan Qaboos University |
| SQUH | Sultan Qaboos University Hospital |
| TFR | Total Fertility Rate |

Abbreviations Used in the Organization Chart

| | |
|---|---|
| US | Undersecretary |
| D | Director |
| Direc. | Directorate |

# 1 EXECUTIVE SUMMARY

The Sultanate of Oman is a middle-income oil-producing country in the Arabian Gulf with 309,500 Sq. Km. area and 2.5 million population (of whom 26.6% expatriates). Oman's Renaissance i.e. social and economic transformation began in 1970 with the accession of His Majesty Sultan Qaboos Bin Said to power. The population is concentrated in major urban centers with a few people scattered in isolated small hamlets, thus making it expensive to develop an equitable health care infrastructure.

Oman has a young population with median age of 19 years and age-dependency ratio of 0.7. Its crude death rate, IMR, age at marriage, fertility rates and rate of natural increase have all registered significant declines since Renaissance, with concomitant rise in life expectancy (74 years). Oman has successfully controlled and eradicated major communicable diseases, and is recognized as a country with successful health development achieved in just 3 decades. A health transition is evident with reduced shares of morbidity and mortality due to communicable diseases and larger shares due to non-communicable diseases related to lifestyle and ageing. However, child malnutrition problem is still persistent.

Prior to 1970, Oman's health services were extremely inadequate. The 1971-80 decade marked significant early advance in health systems development after the establishment of the Ministry of Health (MoH). HM granted health care as a fundamental right of the citizens, and promised free health services. MoH established several government hospitals and health centers, and committed itself to Health for All by 2000 based on PHC. Substantial health and human resources planning commenced. The 1991-2000 decade was characterized by modernization, organizational strengthening through decentralization, and human resources production. Oman's health care system entered the consolidation phase with the advent of the 21st Century.

MoH is the country's main agency responsible for the health sector. It develops policies and plans, and implements these in coordination with all constituents of the health sector. The public sector runs 90% of the hospitals and 98% of hospital beds, and employs most doctors and nurses. MoH is also the principal provider of preventive, promotive and rehabilitative services. Drug control, bulk procurement and distribution of drugs are managed by MoH. It runs educational institutions for nurses and allied professionals, and collaborates with SQU and OMSB for undergraduate and post-graduate medical education. Health services provided by MoH are supplemented by other government hospitals/clinics. The private hospitals and clinics, licensed by MoH, function mostly in big cities to provide mainly primary care and some aspects of specialty care.

MoH organizational structure is designed to suit its role and functions. MoH-HQ is responsible for policy-making, planning, monitoring and supporting the regional directorate generals to coordinate the entire health care system in the regions. Wilayat health directorates function in selected large Wilayats. Large hospitals function as autonomous entities under the regional DGs as chairpersons of the management boards. There is an excellent accountability system for the Omani health sector, supported by MoH and other specialized Ministries, and monitored by independent oversight bodies such as the Prosecutor General and the Courts of Law.

MoH shoulders the prime responsibility for public health services. Its comprehensive health agenda includes preventive and promotive care, and a series of community based initiatives. MoH is concerned that unhealthy life-styles and ageing are causing the emergence of new health problems. It has embarked on a special non-communicable disease prevention and control initiative. As a part of this initiative, MoH has mounted an educational campaign to inform and educate the people for adopting healthy life-styles. It ensures that only safe drugs are sold or used in the country. It procures and distributes the drugs for use of the public sector. MoH stresses accident prevention; it also provides ambulance facility and emergency medicine services. MoH makes comprehensive health care available through its health care delivery institutions at multiple levels integrated through a referral chain. PHC, considered to be the main entry point for other levels of care, is provided mainly in health centers and local hospitals. PHC is coordinated by a Directorate of Primary Health Care and a Central PHC Committee. Community Support Groups and Wilayat Health Committees together facilitate inter-sectoral collaboration and community involvement at the grassroots level. Secondary health care (or specialized care) is provided through regional and sub-regional (Wilayat) hospitals. Tertiary care (i.e. super-specialty care) is provided by national referral hospitals. Oman is almost fully self-reliant in health care facilities today.

Human resources planning in MoH aims to optimize the human resources subsystem of the health sector (i.e. planning, production and utilization of manpower) through application of scientific principles of planning. It deals with the development of human resources policies and programs in relation to health policies and plans, and detailed planning for the human resources component of the health care system. MoH has developed its workforce planning and hospital manpower planning models, which utilize available service statistics. MoH has evolved a health information system designed to ensure that reliable, relevant, up-to-date and timely health and health related information are available. MoH taps all available sources for generating appropriate information. The compiled data are subjected to comprehensive analysis and information generation for planning, monitoring and evaluation. Health Systems Research is undertaken to bridge gaps in the information system; it aids in evidence-based health planning and management. MoH pursues an e-Health strategy, ITC is used comprehensively, and information is shared across the institutions. MoH emphasizes decentralization as a managerial strategy under which regional DGs enjoy considerable financial and decision-making authority for health services management. Decentralization is also in effect at the Wilayat level. Autonomous hospital executive directors are given fair amount of authority to manage services efficiently.

The stock of health workforce in the Sultanate has grown significantly over years. Workforce densities have improved over the last decade. The number of physicians per 10,000 population in the Sultanate has reached 16.7 in End-2005, and the number of nurses per 10,000 population has reached 37.0 in End-2005. Health workforce availability in Oman is comparable to other countries at similar per capita income level. Health professional education in nursing (with facilities for production at regional level) and allied professions has reduced dependence on manpower import and ensured equitable distribution. Medical education in Oman has developed satisfactorily, thus enabling Oman to achieve increased self-reliance in physician manpower. The Oman Medical Specialty Board (OMSB) along with MoH, SQU and other agencies developed postgraduate residency programs in the country. MoH supports or facilitates overseas training of Omani physicians. As the health care infrastructure reaches the consolidation phase, the pace of Omanization is expected to accelerate even at the current rate of

manpower production. Nurse Omanization level will increase to over 80%, with several regions touching 100%, while physician Omanization level will increase to 46% by End-2010. Health care in Oman is predominantly financed by the government. A World Bank study has revealed that the Omani health care system has achieved high macro-efficiency, since Oman's per capita health spending is much lower compared to other countries worldwide having similar income levels. The government share in health expenditure is 80%, while private sector shares about 17% of the total health expenditure (of which private out-of-pocket expenditure is just 9%). Due to increased strain on the public budget the policy-makers are reviewing existing policies and exploring alternative avenues for expanding the resource base.

Health services organization and management systems in Oman are continuously adjusted in tune with the decentralization policy. Health planning process is being improved through various means. Hospital management is being strengthened on a sustained basis through a series of measures. Human resources planning and management systems are also being strengthened in numerous ways. MoH continues to promote greater public-private interactions and solicit greater private sector involvement in health care.

# 2 SOCIOECONOMIC GEOPOLITICAL MAPPING

This chapter presents certain general background information on the Sultanate of Oman, which if perused; it will be easy to understand the Omani health care system and its policies, plans and achievements.

## 2.1 Socio-cultural Factors

**Social & Economic Context:** Oman enjoys a stable political, economic, and social system, which is enhanced by the excellent relationships between the Sultanate and its neighboring countries. Islam is the official religion of Oman, though all religions are tolerated. The women increasingly play an active social and economic role in the Omani society. In fact, Oman's socio-cultural milieu is changing fast as the country's economic development progresses. Thanks to HM's wise educational policy and priority to investment in education of the people, Oman has transformed itself into a vastly educated society from a semi-literate society in the pre-Renaissance period. Just over a span of 15 years (1990-2005), literacy level has shot up from 55% to almost 80%. Female literacy has risen even more dramatically during the period (from 38% to 71%). Urbanization is also growing alongside social and economic development. The composite Human Development Index has increased to 0.781 by 2005 from 0.699 in 1990. See Table 2.1.

**Table 2-1 Socio-cultural indicators**

| Indicators | 1990 | 1995 | 2000 | 2005 |
|---|---|---|---|---|
| Literacy Total | 54.7 | 63.7 | 73.6 | 78.0 |
| Female Literacy | 38.3 | 50.6 | 68.0 | 70.6 |
| Women % of Workforce | 10.7 | 13.7 | 17.1 | 22.2 |
| Primary School enrollment | 86.1 | 94.9 | 100.3 | 103.0 |
| % Female Primary school pupils | 47.0 | 48.0 | 48.2 | 49.0 |
| % City Population | 62.1 | - | - | 71.5 |
| Human Development Index | 0.699 | 0.738 | 0.770 | 0.781 |

*Source: Ministry of National Economy and UN Development Reports 1990-2005*

## 2.2 Economy

### Key economic trends, policies and reforms

HM Sultan Qaboos encourages market-orientated policies and private sector development for Oman's prosperity and growth.1 Commercial export of oil began in 1967. Since then many more oil fields have been discovered and developed. After the slump in oil prices in 1998-99, Oman diversified its economy through greater emphasis on industries such as tourism and liquid natural gas. The Oman 2020 Vision Conference sets out Oman's strategy to achieve lasting economic and financial stability through

reshaping the role of the Government in economy, broadening private sector participation, diversifying the economy and sources of national income, globalization, upgrading the Omani workforce and HRD. The Government has established several industrial estates with a view to creating an industrial infrastructure and developing the manufacturing sector. By 2020, it is expected that the economy will not be reliant on oil, but diversified into non-oil sectors, raising higher levels of savings and investments. Crude oil sector's share of GDP is estimated to drop to 9% in 2020, compared with 41% in 1996. The gas sector is expected to contribute around 10% to GDP, compared with less than 1% in 1996.The non-oil industrial sector's contribution is expected to increase from 7.5% to 29%. See Table 1.2.

**Table 2.2 Economic Indicators**

| Indicators | 1990 | 1995 | 2000 | 2004 | 2005 |
|---|---|---|---|---|---|
| GNI per Capita current US$* | 7033.8 | 6301.3 | 7958.4 | 8620.8 | NA |
| GDP per Capita: US$* | 7329.9 | 6592.2 | 8262.3 | 10,241.6 | 12,239.0 |
| GDP annual growth % (over previous year) | 24.7% | 6.8% | 26.5% | 13.7% | NA |
| External balance on goods and services (%GDP) | 19.6 | 8.5 | 27.3 | 14.4 | NA |

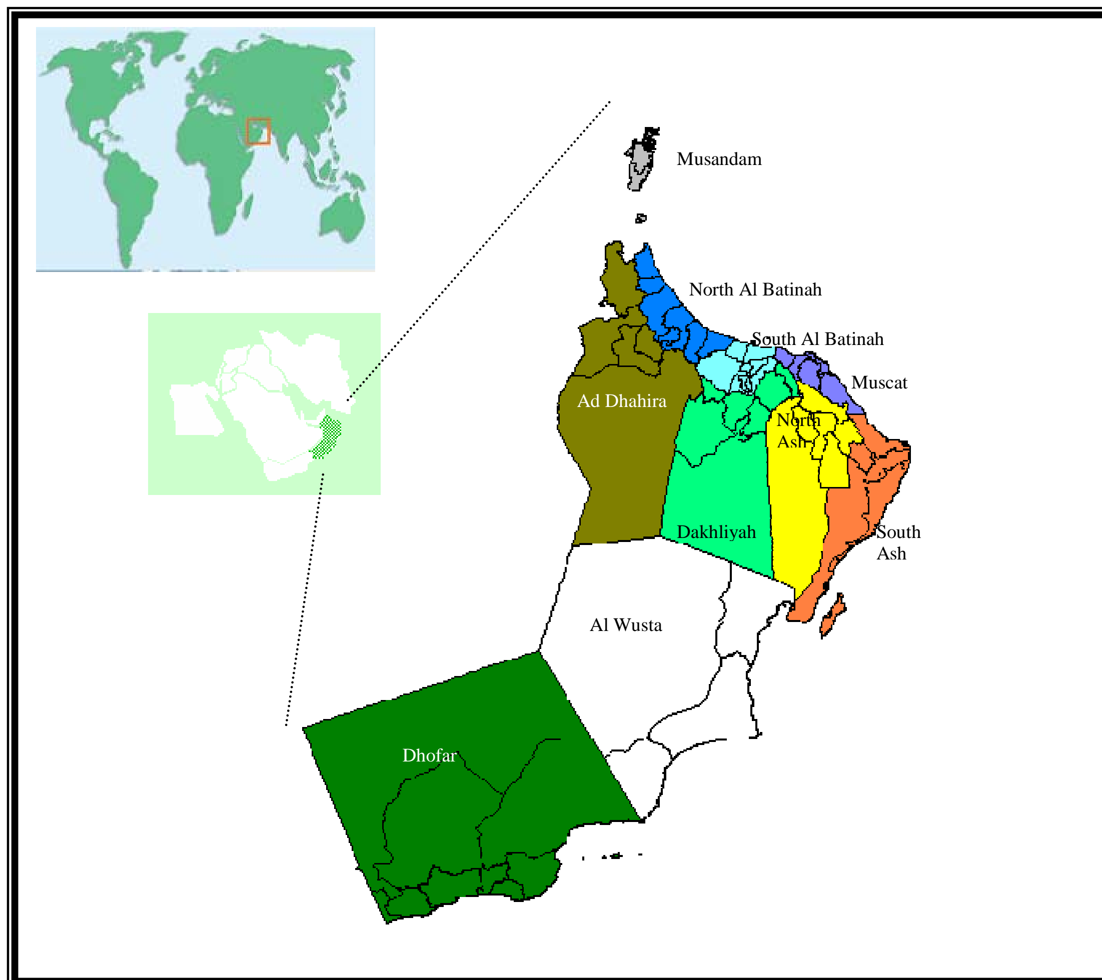
*Source: Ministry of National Economy.* **Exchange rate 1 US$= 0.385*

## 2.3 Geography and Climate

The Sultanate of Oman lies on the southeast corner of the Arabian Peninsula. Its coastline runs to a distance of 1,700 KM from the Strait of Hormuz in the north to the borders of the Republic of Yemen, thus overlooking three seas, the Arabian Gulf, the Gulf of Oman and the Arabian Sea. The Sultanate occupies a total area of about 309.5 thousand square kilometers and includes different terrains that vary from plains, wadis, highlands and mountains. The coastal plains overlooking the Gulf of Oman and the Arabian Sea form the most important plains amounting to 3% of the total landmass, the mountains make up 15% of the total area, while sand and desert account for 82% of the total area. The Sultanate's climate varies from one area to another: hot and humid weather in summer in the coastal areas, hot and dry in the interior and some high areas with moderate weather round the year. The weather is more moderate in the southern area. Rain in Oman is scarce and irregular. However, sometimes heavy rainfall is also reported. Governorate of Dhofar is an exception, where heavy and regular monsoon rain is registered from June to October.[1]

Oman is administratively divided into 4 Governorates (Muscat, Dhofar, Musandam and Buraimi) and five regions (Al Batinah, Adh Dhahirah, Ad Dakhliyah, Ash Sharqiyah and Al Wusta). These Governorates and regions are further subdivided into Wilayats (61 in all). Each region has one or more regional centers (12 in all). The Sultanate's total midyear population is estimated to be about 2.509 million in 2005.[2] (See next page for an outline map of Oman).

**Figure 1. Map Of Oman**




## 2.4 Political/ Administrative Structure

**Historical & Political Context:** Archeological discoveries and research have traced Oman's civilization at least to 3000 BC. It was an ancient source of copper. Copper mining and smelting industry thrived by 2000 BC. There is evidence of the existence of an early trading community and farming and fishing settlements. The advent of Islam in 630 AD ushered in a period of peace, stability and prosperity lasting more than three centuries. In the early 16th century, the Portuguese occupied Muscat for 150 years, and dominated the trade until that time an Arab monopoly. The Portuguese were expelled from Muscat in 1650 by Sultan bin Saif al-Yarubi. Since then no other foreign powers have occupied Oman, apart from a brief period when the Persians partially occupied it. The Ya'aruba Imams introduced a period of resurgence in Omani fortunes. However, Oman remained largely isolated from the rest of the world until, in 1970, His Majesty Sultan Qaboos bin Said came to power. His Majesty's reign signaled the Renaissance or the beginning of a bright new era that renewed Oman's historic glories and opened a new chapter of development, prosperity and social and economic progress. 2

Soon after his accession to power, Sultan Qaboos bin Said established various Ministries and key councils such as the National Defense Council, the Interim Planning Council and the Central Bank. In 1981, the Sultan ordered the establishment of the State Consultative Council, designed to provide Oman's citizens with a greater opportunity to participate in the efforts of the country's government. In December 1991, H.M. Sultan Qaboos set up the Majlis Al Shura, the Consultative Council through a Royal Decree (No.94/91), to replace the State Consultative Council. His Majesty specified the tasks entrusted to the Majlis Al Shura, stating that it was to be "...a forum for the combined efforts of the government and people's constituencies wherein they may undertake to study the aims and goals of our development plan." Women are especially encouraged to contest elections to the Majlis Al Shura. As provided for in the Basic Statute of the State, a Royal Decree (No.86/97) was issued to set up the Council of Oman in 1997. The Council of Oman comprises the Majlis Al Shura, whose members are elected by Omani citizens every four years, and the Majlis Al Dawla (State Council), whose members are appointed by the Sultan. The State Council members, appointed for their expertise in various fields, represent a wide range of views and experiences. The Majlis Al Shura examines the issues presented to it, prepares studies on development and solving problems, and promotes cohesion and unity. It submits proposals and recommendations to His Majesty the Sultan or the Council of Ministers. The president of Majlis Al Shura submits an annual report to the Sultan on its activities and deliberations.[3] These developments do reflect His Majesty's vision of Oman as a modern state with strong democratic institutions.

# 3 HEALTH STATUS AND DEMOGRAPHICS

This chapter depicts the Sultanate's current demographic and health status, so that one can understand where Oman has been able to reach through its health system development policies and plans.

## 3.1 Health Status Indicators

**Table 3.1 Health Status Indicators 1990-2005**

| Indicators | 1990 | 1995 | 2000 | 2005 |
|---|---|---|---|---|
| Life Expectancy at Birth (years) | 69 | 71.6 | 73.5 | 74.3 |
| HALE | - | - | 60.4 | - |
| Infant Mortality Rate (/ 1000 live births) | 29 | 20 | 16.7 | 10.3 |
| Probability of dying before 5th birthday/1000 live births | 35 | 27 | 21.7 | 11.1 |
| Maternal Mortality Rate (/100 thousands) | - | 22 | 16.1 | 15.4 |
| Percent Normal birth weight babies | 91.3 | 92.5 | 91.9 | 91.7 |
| Prevalence of low-weight for age (below 5 years of age) | - | 23.6%** | 17.9%* | - |
| Prevalence of low-height for age / stunting (below 5 years of age) | | 22.9%** | 10.6%* | |
| Prevalence of low-weight for height (wasting) (below 5 years of age) | | 13%** | 7.0%* | |

*Source: Ministry of National Economy and Annual Health Reports of Ministry of Health.*
** National Survey for PEM 1999 ** Oman family Health Survey 1995*

**Table 3.2 Health Status Indicators by Gender – 2005**

| Indicators | Male | Female |
|---|---|---|
| Life Expectancy at Birth | 73.2 | 75.4 |
| HALE | 62.7** | 65.3** |
| Infant Mortality Rate | 11.6 | 8.9 |
| Probability of dying before 5th birthday/1000 | 12.5 | 9.6 |
| Prevalence of low-height for age (stunting) (below 5 years of age) | 10.9%* | 10.3%* |
| Prevalence of low-weight for height (wasting) (below 5 years of age) | 7.8%* | 6.2%* |

*Source: Ministry of National Economy, Ministry of Health,*
** National Survey for PEM 1999 ** HALE estimate for 2002 by WHO*

Oman's current health indicators compare well with those of many developed countries. Thanks to considerable economic and social development and progress in health care over the years, the Sultanate has achieved a life expectancy of over 74 years. This has been achieved despite a relatively high fertility rate and the consequent large share of population under age 15 years (38.9%). The health indicators show a remarkable reduction in mortality, especially childhood mortality. The indicators do suggest that the health of women has improved more relative to men. Oman seems to have achieved remarkable success in evolving policies and plans for controlling or eradicating major communicable diseases. These include the expanded program of immunization initiated in 1981 and the establishment of the disease surveillance and control system in 1987. Oman is now recognized internationally as one of the few countries in this region with successful experience in health development. It has achieved a dramatic transformation in its health care system over a remarkably short span of time. WHO, in its first-ever comparative analysis of health systems in 2000, ranked Oman first among 191 WHO member states for its overall performance on level of health.[4] It is worth-mentioning that not a single case of poliomyelitis or of diphtheria has been recorded since 1993 and 1992 respectively. Only a single case of tetanus neonatrum (1995) has been recorded since 1991. Remarkable achievements have been made in controlling other communicable diseases such as respiratory infections, diarrheal diseases, tuberculosis and leprosy. Control of malaria, once a deadly disease in Oman, has been a great success. Annual number of cases declined from over 30 thousand in early 1990's to only 544 cases in 2005. All cases reported in 2005 were, however, imported cases and no autochthonous cases were reported. Hence, malaria can be considered eradicated as no more transmission is taking place in Oman. This was the result of a highly successful malaria eradication program of the Ministry of Health. See Tables 3.1 and 3.2.

**Table 3.3 Top 10 Causes of Mortality / Morbidity (2005)**

| Rank | Mortality | Morbidity |
|---|---|---|
| 1 | Disease of the circulatory System | Diseases of the respiratory system |
| 2 | Injuries and poisoning | Complications of pregnancy, childbirth and the puerperium |
| 3 | Neoplasm | Injuries and poisoning |
| 4 | Diseases of the respiratory system | Disease of the circulatory System |
| 5 | Disease of endocrine, metabolic and immunity | Diseases of the digestive system |
| 6 | Infectious and parasitic diseases | Infectious and parasitic diseases |
| 7 | Congenital and chromosomal | Disease of genitourinary system |
| 8 | Diseases of the digestive system | Diseases of Nervous system |
| 9 | Diseases of Genitourinary system | Disease of endocrine, metabolic and immunity |
| 10 | Conditions originating in the perinatal | Disease of blood and blood forming |

*Source: Annual Health Report, Ministry of Health, Oman (2005), and the notifications of death sent to civil state as part of the vital registration in 2005.*

Available mortality and morbidity data show clear signs of the onset of a health

transition in Oman similar to what has already been observed in the developed countries. See Table 3.3.

While in the past, communicable diseases caused substantial morbidity and mortality in Oman, now the cardiovascular diseases and injuries are the main causes of morbidity, and the cardiovascular diseases and neoplasm are the main causes of mortality. The diseases related to lifestyle (non-communicable diseases) and the changing age-structure of the population have begun to reveal morbidity patterns similar to those of developed countries. The results of the National Health Survey 2000, conducted by MoH in 1999-2000, portrayed a worrisome picture of the risk factors for non-communicable diseases. Based on a sample of 2,067 households and 5,840 subjects 20 years and older, the study showed that the prevalence rate of diabetes was 11.6% fasting (11.8% in males and 11.3% in females), which increased with age and decreased with levels of education. 33% of the subjects had high systolic or diastolic blood pressure (35.7% in males and 30.9% in females). The prevalence of high cholesterol levels (> or = 5.2 mmol/l) was 40.6%. About 29% of the subjects were overweight and 19% were obese. Smoking rates for males was found to be 10.7%, but regular smokers were hardly found among women. [5]

The people of Oman do still suffer from some diseases related to nutritional problems and congenital disorders. It is believed that these are related to certain behavioral aspects of the population, which require to be modified by strong health promotional measures. UNICEF notes in one of its recent reports, quoting the findings of the National Health Survey 2000 conducted by the Ministry of Health, that maternal nutrition continues to be a major concern in Oman. The national health survey found that about 43% of pregnant women aged 15–49, and 30.0% of all women aged 20–49 years suffer from anaemia. The National PEM survey conducted in 1999 found that the prevalence of underweight children was 17.9% while for stunting and wasting the figures were 10.6% and 7.0% respectively. The nutrition situation may have improved since then, but PEM among children is still an issue of considerable public health concern.[6]

## 3.2 Demography

### Demographic patterns and trends

**Spatial Distribution of the Population:** The Sultanate's population is largely concentrated in a few regions of the country (viz. Muscat Governorate and Batinah Region), which have high population densities. Several regions of Oman (viz. Al Wusta Region and Dhofar Governorate) have small shares of the country's total population and / or have very low population densities. (See Table 3.4). Even within a region, the population is largely concentrated in the main Wilayat or in the major urban centers. There are isolated small hamlets inhabited by a handful of people. This sort of an uneven population distribution makes it expensive for the Government to extend health care facilities easily accessible to all people.

**Table 3.4 Spatial Distribution of Population (Mid-year Population for 2005)**

| Governorate / Region | Total Population | % of National Total | Population Density (No. Per Sq. Km.) |
|---|---|---|---|
| Muscat | 695,432 | 27.72 | 178.3 |
| Dhofar | 234,709 | 9.36 | 2.4 |
| Ad Dakhliyah | 280,687 | 11.19 | 8.8 |
| North Ash Sharqiyah | 146,655 | 5.85 | 8.8 |
| South Ash Sharqiyah | 184,205 | 7.34 | 9.4 |
| North Al Batinah | 430,996 | 17.18 | 54.3 |
| South Al Batinah | 257,176 | 10.25 | 56.3 |
| Adh Dhahirah | 223,473 | 8.91 | 5.0 |
| Musandam | 30,637 | 1.22 | 17.0 |
| Al Wusta | 24,867 | 0.99 | 0.3 |
| National Total | 2,508,837 | 100.00 | 8.1 |

*Source: Annual Health Report, Ministry of Health, Oman (2005)*

**The Population Structure**: As in other states of the Gulf Cooperation Council (GCC), Oman has a large expatriate workforce, and fluctuations in the size of that community is dependent on the nature and pace of industrialization and the size of development projects undertaken in the country. In 2005, of the total midyear population (2.509 millions), 26.6% are non-Omanis.

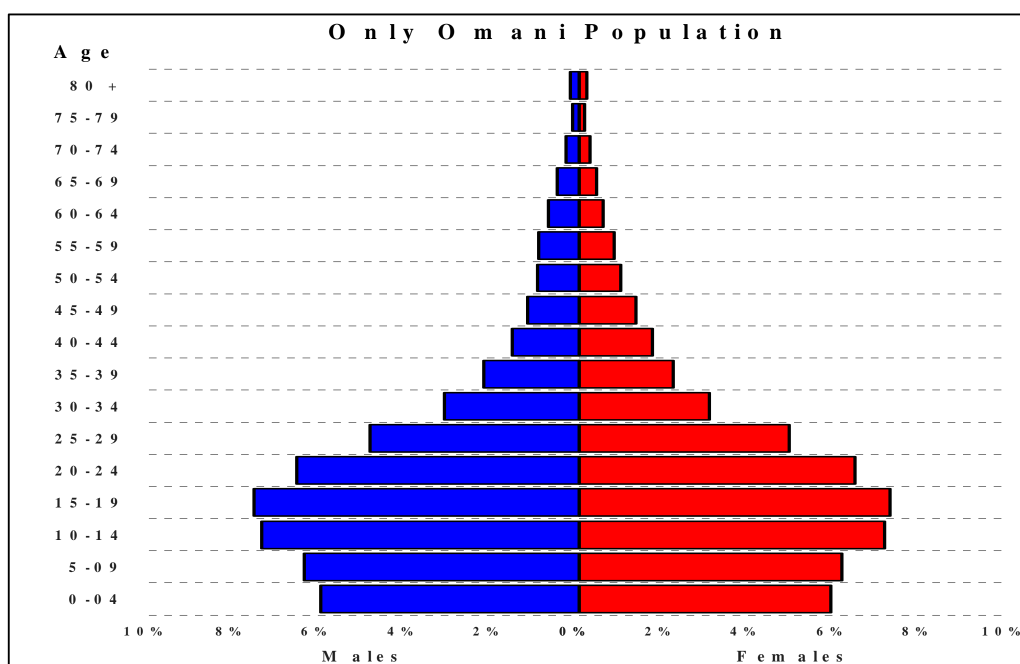
The Omani population has a sex ratio of 102 males per 100 females. Successive years of relatively rapid population growth have given Oman an overwhelmingly young demographic profile. Official estimates indicate that about half of all Omanis are under the age of 19 (median age 18.8 years). About 11.9% and 38.9% of the population are under-5 years and under-15 years of age respectively, and only 3.5% is 60 years and over. Age-dependency ratio is 0.7. See Table 3.5 and figure 2.

**Table 3.5 Population Structure Indicators (Omani Population)**

| Population | 2005 |
|---|---|
| Omani | 1,842,684 |
| Expatriates | 666,153 |
| Total | 2,508,837 |
| **Omani Population Characteristics** | |
| Sex Ratio (Males per 100 females) | 102.1 |
| Under 5 Years (% of Omani Population) | 11.9 |
| Under 15 Years (% of Omani Population) | 38.9 |
| 60 Years and Over (% of Omani Population) | 3.5 |
| Females aged 15 to 49 Years (% of Omani Population) | 26.9 |
| Females aged 15 to 49 Years (% of Omani Females) | 54.4 |
| Married Females (% of Omani Females aged 15-49 years) | 50.2 |
| Age Dependency Ratio (below 15 & over 65 years to population 15-65 years) | 0.7 |

*Source: Annual Health Report, Ministry of Health, Oman (2005)*

**Figure 2. Population Pyramid of the Omani Population (2005)**




The age-dependency ratio has been reducing over the years in line with the reduction in the share of the young population. See table below.

| Indicators | 1995 | 2000 | 2005 |
|---|---|---|---|
| Age Dependency Ratio | 1.2 | 0.9 | 0.7 |
| % Population <15 years | 49.9 | 43.2 | 38.9 |

**Demographic Status of the Population:** In the last three decades, the Sultanate has witnessed rapid fall in the crude death rate of the population consequent to the substantial social, economic and health services development. There has been a relatively slower but still considerable fall in the crude birth rate of the Omani population. Rise in the age at first marriage (1993 Females: 20.7, Males: 24.7) to (2000 Females: 23.3, Males: 26.2) might be one of the factors responsible for the decline in fertility rate in Oman. The Total Fertility Rate (TFR) of Omani women was estimated from 1993 census data to be 6.9, which has since declined to 3.1 in 2005.

A break-up of the population between Omanis and non-Omanis shows that, while the overall growth rate was less than 2% in 1998 and 1999, the local population expanded by an average of 2.7% per year. In 2000, the number of expatriates increased, pushing up the overall growth rate to 3.3%, while the growth rate of the Omani national population was about 2.9%. In the following years, the trend continued to be similar because of substantial economic development of the country. See Table 3.6.

**Table 3.6 Demographic Indicators (Omani Population)**

| Indicators | 1990 | 1995 | 2000 | 2005 |
|---|---|---|---|---|
| Crude Birth Rate (per 1000 pop) | 44.7 | 34.0 | 32.6 | 24.8 |
| Crude Death Rate (per 1000 pop) | 7.6 | 6.1 | 3.7 | 2.5 |
| Natural Population Growth Rate (%) | 3.7 | 2.8 | 2.9 | 2.2 |
| Total Fertility Rate: | 7.8* | 6.0 | 4.7 | 3.1 |

*Source: Annual Health Report, Ministry of Health, Oman (2005).*
** TFR for 1988 (Child Health Survey 1992)*

# 4 HEALTH SYSTEM ORGANIZATION

This chapter first explains how the Omani health care system evolved from the scratch and the nature of reforms, which have already been implemented over the years. It then goes on to discuss the roles of various constituents of the health care system, and elaborates the organizational structure of MoH-HQ and other levels of the Ministry. Finally, the chapter elucidates the mechanism by which the system ensures accountability of various levels of the health system organization.

## 4.1 Brief History of the Health Care System

**Evolution of the Health Care System in Oman and Past Reforms:**

**Pre-Renaissance Era:** Before 1970 Oman had very limited health services. There were only two hospitals (with a total of 12 beds), both in the national capital Muscat, run by the American Mission. Only a few physicians and nurses, almost all of them expatriate, and a few Omani paramedic staff, bore the whole burden of running the hospital. There were also 10 clinics in the interior, which were staffed just by a few health assistants supported by periodic visits by the hospitals' medical teams from Muscat. Needless to say, these institutions had very inadequate facilities, and the staff had to face great challenges in extending medical care to the people, mostly impoverished citizens, who had nowhere else to turn to for availing of such services. Prior to the arrival of the missionaries, the Omani people had to rely mainly on traditional medicine. Hence, admittedly, the American Mission has to be credited with introducing modern (Western) medicine to Oman.[7]

**1971-80:** This decade marked significant early advance in the sphere of health services development in Oman. HM the Sultan established the Ministry of Health (MoH) by a Royal Decree (No. 26/75). He assured the citizens that health care was a fundamental right, which would be extended free-of-charge to all. HM charged MoH with the responsibility to organize and develop the national health services. The Ministry of Health took over the Khoula Hospital run by the Petroleum Development Oman and the Arrahama Hospital run by the American Mission. This marked the beginning of Oman's Health System Infrastructure Development (Phase-I) characterized by the establishment of a few government hospitals and health centers in Muscat, and a few in the interior areas. Due to HM's firm commitment to extend health care to the citizens, and the high priority attached to it, Oman's health services were already emerging as a vital force to reckon with. In 1978, the Sultanate of Oman, already a member state of WHO by then, expressed its firm commitment to the PHC system as the main vehicle for reaching Health for All by the Year 2000.[8] Due largely to HM's vision of a modern Omani state, the country embarked in 1976 on a strategy of economic and social development through 5-Year Development Plans. Health and education sectors were assigned prime importance in the Sultanate's development agenda. In line with this strategy, the Ministry of Health initiated its early health planning efforts during this decade, focused mainly on building the health system infrastructure.

**1981-1990:** This decade was characterized by the continued expansion of the hospital network and health centers. It may be described as Oman's Health System Infrastructure Development (Phase II). As in the last decade, health planning even in this decade of 80's continued to devote itself mainly to the development of the health

system infrastructure. However, certain health programs like the Expanded Program of Immunization and the Disease Surveillance System had already started functioning. Two very significant events during the later half of this decade were the setting up of the Ministry's Royal Hospital (1987) with modern tertiary medical care facilities, and the College of Medicine and Hospital of the Sultan Qaboos University (1986). It is only in 1990, as the Ministry was invigorated with the infusion of a new management team, and as MoH began to set the stage for the last decade of the 20th Century, substantial health planning commenced. WHO supported the Ministry very well by bringing in expert missions on health planning and HRD planning. This decade's planning efforts were not confined only to the continuation of the health system infrastructure development, but also initiate systematic strategic planning on health program development and human resources development. Yet another milestone in this decade was the initiation of regional decentralization in health administration through an executive order of the Health Minister setting up the offices of regional directorate generals of health services (12/90).

**1991-2000:** This decade may be described as the Health Infrastructure Development Phase III. It was characterized by modernization (replacement of existing hospitals and health centers with modern state-of-the-art hospitals and well-designed health centers and polyclinics). This decade was also marked by considerable strengthening of the health system organization and management. In order to boost health planning and other developmental initiatives such as IT and HRD, a new office of the Undersecretary for Planning Affairs was established through a Royal Decree (No.47/92). The central office of the Ministry of Health was also strengthened by integrating health services organization through merger of preventive medicine and curative medicine departments under a central Directorate General of Health Affairs. The planning department of the Ministry was upgraded to a new Directorate General of Planning with specific directorates respectively on planning (with sections on HRD and financial planning), health information & statistics, research & studies, and planning & monitoring. The newly set-up offices of the regional directorates were strengthened by appointing DGs with professional qualifications and deputing several others for acquiring professional management qualifications abroad. These measures helped to tone up the health administration in general and health planning in particular.

Health planning, on the lines of the WHO-recommended managerial process for national health development (MPNHD), helped in prioritizing health problems; designing implementation; and monitoring of health programs.[9] Development of strategic planning at the central level and regional planning using a participative approach; the use of Wilayat (district) Team Problem Solving (DTPS) approach to train the local functionaries and initiate a planning approach at the district level; all helped in improving plan formulation, monitoring and implementation. These health development plans were extensively used as management tools not only for guiding program implementation, monitoring and evaluation, but also for ensuring that adequate financial support is received from the Government in order to realize the visions of the health system leaders.

The HRD strategic plan, developed in late 1990, was pursued with intensive and extensive HRD planning in this decade.[10] A quantitative model was developed for hospital manpower planning based on workload indicator of staffing needs, and applied to existing and new hospitals and health centers.[11,12] This paved the way for the Ministry's concerted efforts to improve health care delivery through ensuring workforce adequacy. Category-wise detailed perspective planning was regularly undertaken for all major categories, e.g. a study on medical specialties, a nursing study, etc.[13,14,15] Such

studies helped the Ministry to decide on its strategies and plans for further human resources production in the country and for gradual and smooth Omanization of these categories. The setting up of several health professional institutes under MoH and a revitalized central Directorate General of Education & Training to supervise these institutes, helped in undertaking extensive workforce development through in-country education and overseas fellowships.

MoH recognized the importance of establishing a strong health information system and backing it up with appropriate systems for primary data collection and its analysis for generating information for evidence-based planning and management. Substantial efforts were invested to streamline the erstwhile unsatisfactory medical record system by replacing it with unified (partly paper-based, partly computerized) medical record systems. This was eventually replaced largely by IT – supported health information management systems in hospitals and health centers. MoH continued, at the same time, to strengthen its management information system for planning through induction of an increasing number of health statisticians and epidemiologists at central and regional level. A cost measurement and monitoring system was also initiated to support financial planning, and for this cost accountants were recruited and assigned to central, regional and hospital level.

Some other important measures for improving health care delivery were: the initiation of professional management of hospitals, strengthening primary health care at the health center level through induction of FAMCO specialists, establishment of polyclinics (EHC) to serve as an extension of PHC with rudiments of specialized care, and setting up of offices of Wilayat Health Supervisors for spearheading the Wilayat Health System and to serve as a link between the Ministry of Health and the community.

**Post-2000 to date:** This phase of development of health system in Oman may be described as Infrastructure Development Phase IV or the Consolidation Phase. It is characterized by further strengthening of PHC through expansion of primary health care network (health centers and extended health centers), further development of super-specialty health care (e.g. National Oncology Center and the proposed National and Regional Cardiac Centers), as well as a series of organizational and managerial reforms and refinements. The Ministry has extended its decentralization mission further by embarking on a hospital autonomy initiative (which also entails a re-engineering of hospital management, training of Omani physicians in hospital management, development of hospital performance indicators), and establishing Wilayat Health Directorates in several regions (led by family physicians). IT-based hospital information management systems in hospitals and health centers are being further strengthened eventually to be nationally linked to realize the vision of e-governance. MoH has already developed improved patient referral systems and improved patient complaints management systems.[16] A Continuous Quality Improvement (CQI) movement, initiated earlier for primary health care, is now being extended to hospitals as well.

MoH initiatives have been further strengthened through the technical cooperation and collaboration with international agencies such as the WHO, UNICEF and the World Bank. WHO-EMRO has continuously supported the Ministry through various technical missions. A Country Cooperation Strategy for WHO and Oman has been developed in 2006 to form the basis for such continuous collaboration for the period 2005-2009.[17] UNICEF has been actively involved in social development and health-related initiatives in Oman.6 The World Bank has undertaken several review missions, on the invitation of the Government, and has come up with significant recommendations, which have been helpful to MoH in shaping its health sector reform strategies.[18,19]

The Ministry has just completed a comprehensive 7th 5-year health development plan using a result-based planning methodology (which also combines elements of MPNHD and a participative approach involving multiple levels of consultation).[20] Rational staffing patterns (norms) have been developed for primary health care institutions.[21] A HRD strategic plan has also recently been prepared as a supplement to the 7th 5-year health development plan.[22] This plan incorporates, inter alia, the strengthening of continuing professional development of staff and improvement of human resources management.

## 4.2 Public Health Care System

### Organizational structure of public system

#### Role of the Ministry of Health in the Health Sector

Stewardship Role: The Ministry of Health is the Sultanate's main agency responsible for coordination and stewardship of the health sector. MoH is required to ensure overall development of the health sector per se and in relation to other key social sectors. In keeping with this role, MoH acts as the principal architect of health system design and takes responsibility for achieving inter-sectoral coordination. It develops policies and plans for the health sector. It implements these in coordination with all other related ministries, health services institutions under the government as well as the private sector. Since, it is responsible for developing the health system infrastructure, it also leads resource mobilization from within the government, as well as from private /voluntary donors. It advocates to all other public systems to make policies favorable to the health sector, and to refrain from making policies, which may adversely affect the health of the people.

Curative Function: The health care system in Oman is primarily in the public sector, which runs about 90% of the hospitals and 98% of hospital beds. Most doctors (78%) and nurses (92.5%) work in the public sector. The Ministry of Health runs about 85% of the hospitals and 86% of hospital beds, with about 70% of doctors and 85% of nurses. Hence, it is indeed the main health care provider in the Sultanate.

Preventive, Promotive & Rehabilitative Function: The Ministry of Health recognizes the importance of the preventive, promotive and rehabilitative components of health care, and provides all the required services through its infrastructure to the fullest extent possible.

Pharmaceutical Care: MoH undertakes drug control through its Directorate General of Pharmaceutical Affairs (DGPA & DC) and drug procurement and distribution through its Directorate General of Medical Supplies (DGMS).

Education Function: MoH runs educational institutions under its Directorate General of Education & Training (DGET) for producing basic and post-basic health professionals in selected fields. It also cooperates and collaborates with Sultan Qaboos University (SQU) and Oman Medical Specialty Board (OMSB) in running the medical degree and post-graduate medical specialty programs. MoH actively pursues international accreditation of its educational programs and collaboration with foreign universities / examining boards.

Environmental Health: The Ministry of Health, through its Directorate of Environmental and Occupational Health, works in close coordination with the municipalities to ensure a safe and healthy environment.

### Roles of Other Ministries and Agencies in Health Sector

Health care services provided by MoH are supplemented by other government hospitals/clinics. Such health care providers include: Armed Forces Medical Services (AFMS), Medical Services for Royal Oman Police (ROPMS), Petroleum Development Oman Medical Services (PDOMS) and the Sultan Qaboos University Hospital (SQUH). While the SQU Hospital serves mainly as a teaching hospital and provides tertiary care, the other health care providers mentioned above provide care mainly to their own employees and their families. The Ministry of Regional Municipalities, Environment and Water Resources deals, inter alia, with environmental issues.

### Community Participation in Health Care

The Omani health system practices the basic client orientation (patient-centered) approach. The health centers work in close cooperation with Community Support Groups (CSG) actively involved in health care planning, monitoring and implementation.

### The Organization of the Ministry of Health

#### MoH-Head Quarters (MoH-HQ)

The organizational structure of MoH is designed to suit its role and functions. The Minister of Health is assisted by three Undersecretaries respectively for Planning Affairs, Health Affairs, and Administrative & Financial Affairs. A number of Directorates General and Directorates come under each of the Offices of the Undersecretaries. (See Organization Chart of MoH). The Minister is assisted by a number of advisors and consultants in addition to the Directorates of Public Relations, International Relations, Legal Affairs and the Directorate General of Internal Audit. The Royal Hospital, the nation's apex hospital, comes directly under the Minister of Health. The Office of the Undersecretary for Health Affairs ensures effective and efficient delivery of comprehensive health care to the people of Oman. The Directorate General of Health Affairs (DGHA) comes under this Office and incorporates a number of directorates: Family & Community Health, Communicable Disease Surveillance & Control, Non-Communicable Disease Surveillance and Control, Environmental Health, Malaria Eradication, Health Education, School Health, Public Health Laboratories, Blood Bank Services, Hospital Affairs, Nutrition, Primary Health Care, Community Based Initiative, Quality Assurance and Nursing & Midwifery. Through these Directorates, the DGHA develops the implementation plans and procedures for effecting national health policies and plans with the cooperation of the regional health authorities, and monitors the entire health care process. It also plays a pivotal role in the selection and recruitment of health care professionals. The Directorate General of Pharmaceutical Affairs & Drug Control develops and implements national drug policy. It ensures the availability of drugs and other pharmaceuticals with adequate quality at various levels of health care. It is also responsible for monitoring of drug imports, price control and quality assurance. In addition to DGHA, there are some key Directorates directly under the Undersecretary for Health Affairs viz. Directorates of Rational Use of Drugs, Treatment Abroad, Private Health Establishments and Patient Safety.

The Office of Undersecretary for Planning Affairs has a number of Directorates General and Directorates. These function in coordination to formulate the health plans for developing the health services. The Directorate General of Planning incorporates: the Directorate of Health Information and Statistics, which develops and maintains the Ministry's health information system; the Directorate of Research & Studies, which is responsible for developing health systems research capabilities and conducting field studies; the Directorate of Planning, which prepares the health plans; human resource

plans and special programs, and the Directorate of Monitoring & Evaluation, which monitors the implementation of the plans. The Directorate General of Education & Training plays an important role in developing national human resources for the health sector as an integral part of the national Omanization strategy. The Directorate General of Information Technology facilitates and promotes the development of the health care system through extending support for the creation and maintenance of computer-aided information management systems.

A number of Directorates General (DG) function under the Office of the Undersecretary for Administrative and Financial Affairs. The DG for Financial Affairs, through its three Directorates: Contracts & Purchases, Revenue & Expenditure and Budget & Accounts, accomplishes the financial and accounting duties, and contracting as well as purchasing according to the country's financial rules and disciplines. The DG Administrative Affairs, through its Personnel and Administrative Services Directorates, performs activities related to employment affairs within the agreed policies. There is also the DG Medical Supply which makes the plans and policies regarding stores, and produces annual estimates of drug requirements and costs through its two directorates: Stores and Spare Parts. The DG Engineering Affairs has three Directorates: Projects, Equipments and Maintenance. It is responsible for civil, mechanical, electrical and biomedical engineering and maintenance of equipment, instruments and buildings (with the help of contract services), in addition to looking after the development projects.

**Regional Directorate Generals**

The Regional Directorate Generals directly function under the Office of the Undersecretary for Health Affairs. The office of the regional directorate general represents the highest decentralized authority of the Ministry of Health in a region. He coordinates the entire health care system functioning in the region.

The DG of a region is supported by a number of directorates. The office of DG is assisted at the Wilayat level by Wilayat Health Superintendents, charged with the responsibility of supervising the provision of the health services at that level.

Wilayat Health Directorates: Wilayat Health Directorates function in some selected large Wilayats (eventually to be established in most Wilayats). These are headed by directors (usually a family physician) in order to strengthen decentralization at that level.

Autonomous Hospitals: Major regional hospitals function as autonomous entities each with a separate management board constituted by the Ministry of Health. These hospitals, each with a budget of its own, do enjoy a certain degree of financial and administrative autonomy. The Director General of Health Services of a Region serves as the Chairman of the management board(s) of the autonomous hospital(s) in the region.

## 4.3 Private Health Care System

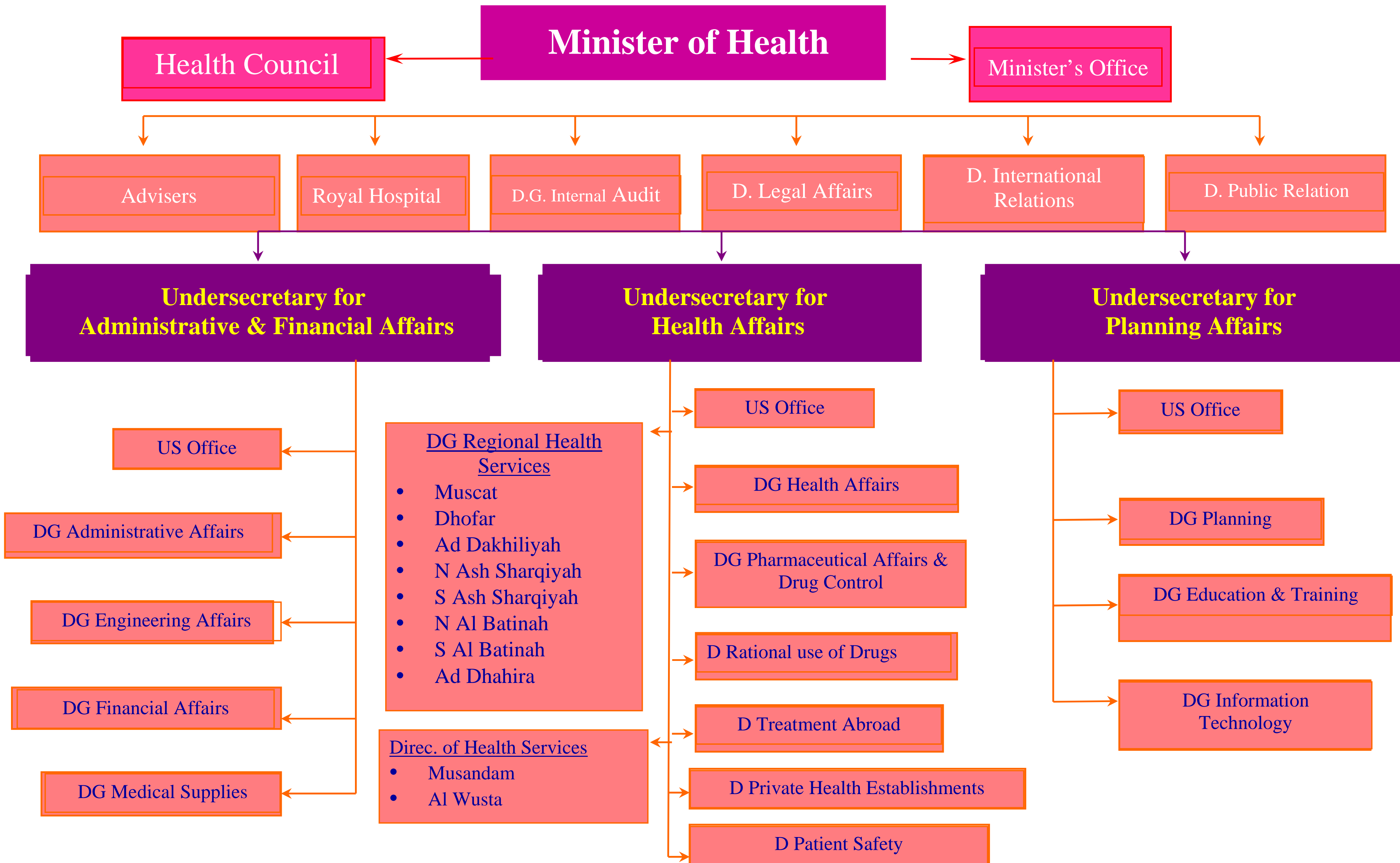
### Role of the Private Sector in Health Care

The private hospitals and clinics, licensed by MoH through its Directorate of Private Health Establishments and supervised by the respective regional directorates, play an increasingly important role in providing health care in Oman. There are 4 private hospitals (with a total of 126 beds), 713 private clinics and 331 private pharmacies. Alternative systems of medicine are practiced by 53 licensed Chinese Medicine and Indian Herbal Medicine clinics. About 22% of the physicians, 60% of the dentists, and 76% of the pharmacists in Oman work in the private sector. The clinics and pharmacies are distributed all over the Sultanate, especially in the relatively larger cities. However,

most of the clinics provide only primary medical care, since the specialized clinics represent only about 22% of all clinics. MoH encourages the private sector to invest in the health sector especially outside Muscat. Although these hospitals and clinics are profit-oriented institutions, there are also a few non-profit NGOs, which promote health or deliver some health or social care to the disadvantaged sections of the population, viz. Association for Early Interventions, Oman Association for the Disabled, Azaiba Association for Handicapped Children, Cancer Awareness Group, Down Syndrome Association, Oman Society for Sickle Cell and Thalassemia and Women's Association.

## 4.4 Overall Health Care System

Figure 3. Organization Structure of Ministry of Health



# 5 GOVERNANCE/OVERSIGHT

This chapter elucidates the health policy-making, health planning and management practices adopted by the Ministry of Health.

## 5.1 Process of Policy, Planning and management

### National health policy, and trends in stated priorities

#### Health Policy Formulation

Health Policy-making in the Sultanate of Oman is a complex process, as it is anywhere else in the world. As Oman is a welfare state, its state policy is clearly pro-people and greatly patterned after His Majesty the Sultan's proclamation and response to the wishes of the people. HM the Sultan accorded the highest priority to health and educational development since the onset of Omani Renaissance. He has assured the people of Oman that health is a fundamental right of the people, and the Sultanate will provide health care to its citizens free-of-charge. In keeping with this broad directive, the Ministry of Health has been adopting policies from time to time to realize the health aspirations of the people. The Ministry of Health, after extensive consultations and considerations, issued its own National Health Policy Statement in 1992, which continues to be largely relevant even today.[23] The health policies are of course constantly reviewed and modified in the context of health development planning, situation analyses, studies, and based on the feedback received from various stakeholders such as the representative people's bodies, community's expressed desires, senior national and regional health administrators, expert assessments and recommendations of international agencies, etc. The Minister of Health and the Undersecretaries keep making their own assessments of policies and plans, and initiate policy adjustments in line with the state's broad policy framework, after adequate policy analysis and studies.

#### Health Planning

As stated earlier, the process of developing a health policy is dependent on the results of the health situation analysis. Broad health policy framework naturally determines greatly the strategies and activities of the health plans. The organizational structure of MoH is designed to allow evidence-based plan formulation through health situation analysis, evaluation of the implementation of plan and assessment of its impact.

Oman has engaged in health development planning since 1976. Health Planning has gone through 3 distinct phases, each with its own features and characteristics that suited the particular development phase at the time. Plans in the first phase, which included three 5-year development plans covering the period 1976-1990, were directed towards building the country's health infrastructure almost from the scratch. The second phase, which also included three 5-year plans (1991-2005), had focused on development of various components of the health system. The beginning of the second phase had coincided with a comprehensive review of the health system and defining future strategic directions characterized mainly by two main strategies; the first was the development of a dedicated planning division at Undersecretary level within the organizational structure of MoH, and the second was introducing a decentralized health system in 10 health regions. During that later phase, health plans were developed using detailed programming to cover, in addition to health infrastructure development, the development of human resources and health programs directed towards priority health problems. Plans were developed at central, regional and lately local or Wilayat levels. These plans used the Managerial Process for

National Health Development (MPNHD) approach advocated by the World Health Organization (WHO).

The third phase of health planning has just started with the process of formulating the 7th 5-year Health Development Plan (2006-2010). MOH had built on the experience gained in the past and moved to develop a more comprehensive plan with three major components: Strategic Planning at the central level, Detailed or Operational Planning at regional level, and Supportive plans at local level. The 7th plan was developed using elements of both the MPNHD and Results-Based Management (RSB) approaches. The 7th plan responded clearly to the specific challenges that are expected during the new plan period. These challenges were identified through detailed situation analysis of the demographic, economic and social situation as well as the epidemiological trends and profiles. Strategic approaches and recommendations of international organizations such as WHO, UNICEF and World Bank have also been considered in the analysis.

## 5.2 Decentralization: Key characteristics of principal types

### Decentralized Management Systems

The Ministry of Health emphasizes decentralization as a managerial strategy. Consequently, after regional decentralization, the regional DGs (with allocated own regional budgets) enjoy greater financial and decision-making authority for health services management than in the past. In order to effect decentralization, the organizational structure of MoH-HQ, the regional head-quarters and those of autonomous hospitals have been so modified that all these institutions can run very efficiently. Decentralization process is also in effect after the establishment of an integrated health system in each of the Wilayats. Wilayat Health Directors/ Superintendents supervise the provision of health services at the Wilayat level. These supervisors also participate in Wilayat health planning. Local health workers, trained in problem solving techniques, are very effective in Wilayat-level planning. Recent decision to appoint a Wilayat Director (a family health physician) in a number of Wilayats, has helped in further strengthening decentralization at Wilayat level. MoH has initiated decentralized management at regional hospital level as well. The hospital autonomy initiative is being implemented in nine referral hospitals; the executive directors of the hospitals have been imparted management education and training. Guidelines for hospital autonomy have been issued through an executive order of HE the Minister (136/2002). [26, 27] Hospital Directors are now responsible for the delivery of health services provided by the respective health institutions. The autonomous hospital executive directors now enjoy administrative and financial authority, and thus they are able to manage their services efficiently. Plans to monitor performance of the autonomous hospitals are being developed. It is expected that hospital autonomy initiative will ensure better and more cost-effective services in the future than ever before.

## 5.3 Health Information Systems

Objective of the Health Information System: MoH health information system is designed to ensure that reliable, relevant, up-to-date and timely health and health related information are available and accessible to health managers at every level of the health care system for use in managerial decision-making, planning and evaluation. Apart from use in strategic planning, health information is also used to monitor the implementation of health plans, measure health status of the population and changing burdens of diseases and trends. Such information is also used to identify health and health related problems, and to prioritize these for planning purposes and to identify health care needs. Evaluation of the effectiveness of health system performance and health status is done using the product of

MoH health information system.

Nature of Data Analyzed: The data analyzed by the MoH health information system include: demographic data and vital events and indicators, data on health resources and health facilities, human resources and their training, medical supplies and equipments, health financing and health accounts. Other items of data covered are: health services utilization (ambulatory services, day care services, inpatient services), environment, morbidity (including disabilities) and mortality, quality of life, as well as other health and health related data of neighboring countries.

Data Processing and Information Generation: MoH taps all available sources for generating appropriate information. These include MoH service statistics including medical records of patients and other registers and records maintained by MoH and other health care providers (public and private), population and housing census data, and civil registration data on births and deaths. Data forms filled by health institutions at the beginning of each month capture data of the previous month. These forms are reviewed by a Wilayat-based statistician, after which the data are fed into a database called "Info Bank". Data are then forwarded electronically to a regional statistician, who reviews and compiles the data at that level. The compiled data are sent to the Directorate of Information and Statistics at MoH-HQ, which compiles the data at national level, and subjects it to comprehensive analysis and information generation for planning, monitoring and evaluation.

**Information Technology and Communication (ITC)**

The Ministry of Health pursues an e-Health strategy, according to which ITC is to be used comprehensively in all health care institutions, and information is to be shared across the institutions. Eventually, MoH plans to evolve a National e-Health Records Repository. The use of ITC is already widespread in MoH institutions. There are over 140 installations of ITC systems in these institutions (out of 189 health care facilities under MoH). ITC is used extensively by MoH institutions at primary, secondary and tertiary level. In fact, all the major health care institutions under MoH already use ITC system, for all its processes (medical, financial and administrative), which are slowly becoming almost paperless. ITC purchase policy conforms to standard purchase regulation or the National Purchase Guidelines. MoH develops most of its ITC software requirements in-house. For procuring standard software packages, MoH uses internationally recognized e-Health standards.

## 5.4 Health Systems Research

Research helps to bridge gaps in the information system and aids in evidence-based health planning and management. MoH Department of Research & Studies drafts research policy, sets research priorities and promotes scientific and ethical research through developing research skills of professionals interested in research. Priority research for planning is carried out round the year, research reports are prepared, and the research information is disseminated by various means. Apart from MoH, the Sultan Qaboos University (SQU) carries out health research according to its own priorities. The research information so generated is utilized for evidence-based planning, policy-making and program development. Survey results are used also as base-line data for planning, program designing and evaluation of program impact.

## 5.5 Accountability Mechanisms

Operational Mechanism: The Sultanate of Oman has entrusted the Ministry of Health with the responsibility of stewardship and coordination of the health sector, apart from being the principal health care provider. While other agencies of the Government such as the

Sultan Qaboos University's University Hospital, Armed Forces Health Services, Royal Oman Police etc. and other related Ministries either provide primary and secondary care to their employees and families and / or deal with certain aspects of health services, even they are required to cooperate and coordinate with the Ministry. MoH develops health policies and plans for the health sector and bears the brunt of the curative care workload. MoH also shoulders the main responsibility for preventive and promotive health. Surveillance of notifiable and other communicable diseases throughout the country is the direct responsibility of the Ministry of Health. The private health care sector functions under the broad oversight of the Ministry's Directorate of Private Establishments. The Ministry of Health HQ especially the Directorate General of Health Affairs, and all the Regional Directorate Generals of Health Services, coordinate with other health care providers respectively at national and regional levels, and ensures their accountability through their various departments and sections. All health care providers are required to compile and submit health statistics and information of respective institutions to the Ministry of Health on regular basis for consolidation and reporting. Similarly, at the sub-regional level, the Directorates of Wilayat Health Services ensure the accountability of all health system actors, with the support of the Wilayat Health Committees and Community Support Groups concerned.

Accountability for Results: The ultimate responsibility for achieving results and fulfilling the policy objectives is vested in the Ministry of Health. The Minister of Health, through the Undersecretaries and the Director Generals, actively monitors the Ministry's overall performance in relation to its strategic 5-year health development plans. However, because of decentralization policy, this responsibility is now widely devolved down the line from regional level to Wilayat and unit level. The managers in charge of health services at this level are provided with protocols and guidelines, so that they can achieve the intended results effectively and efficiently. The supervisory staff of the next upper echelon of health services monitor the accountability for achieving results, and takes corrective actions to ensure that their actions remain on course to help achieve the health system goals optimally. Both Regional Health Plans and the National Health Plans have goals to be achieved with performance indicator(s) to monitor progress. Similarly, each goal has a strategy(s) to be followed with indicator(s) to assess how successfully such a strategy is implemented. Such tools are used to monitor the progress of the health plans

Conformity with Rules and Procedures: The Ministry of Health has the responsibility to ensure that all its departments and operational units for health care provision abide by the Sultanate's law, legal procedures, guidelines issued by the concerned nodal agencies (e.g. the personnel management policies, guidelines, and procedures enunciated by the Ministry of Civil Services) and the unwritten conventions. The relevant Director Generals ensure the conformity of the actions of various units with the Ministry's rules and procedures, the state laws and guidelines issued. Specialized Ministries oversee the relevant aspects of the Ministry's functioning vis-à-vis the rules and procedures issued by them, and provide feedback about its conformity.

Fairness / Equity of the Health System: The Ministry of Health, responsible for the stewardship of the health sector, ensures that the health system in its entirety is fair and equitable. It undertakes routine analysis and special studies to evaluate the equity of the health system viz. accessibility of health services to the people, equity in the spread of the health system infrastructure and the availability of human resources. Based on these studies and the 5-year health development plans, the Ministry takes appropriate decisions to correct any unlikely instances of inequity. Fairness and equity of the health system is also evaluated periodically with the help of external missions such as the World Bank and the WHO. These missions come up with well-researched documents, which are seriously considered by the Government for instituting necessary policy reforms whenever necessary

and feasible.

Tackling Misconduct of Health Workers: Workforce management in MoH institutions is required to conform to the Civil Service Law and the guidelines issued from time to time by the Ministry of Civil Service. Various regional and HQ Directorate Generals play a significant role in utilizing the workforce effectively and efficiently. Deviant behavior of staff is controlled by the managers in charge of various health care units at their levels, failing which it is reported to the next higher level for remedial action. The Directorate General of Health Affairs at MoH-HQ deals with instances of technical impropriety in the behavior of personnel, using suitable protocols developed for this purpose. The Directorate General of Administrative Affairs at MoH-HQ handles all disciplinary matters referred to it, in accordance with MoH rules and the Civil Service Law. MoH, which is the licensing body for private sector health care establishments as well as private sector professionals, does play a role in regulating their conduct. There is a joint Medical Malpractice Committee consisting of MoH and other representatives of stakeholders to review and take decisions on more serious cases of alleged medical malpractice.

Fee Schedules and Annual Financial Reports: The Directorate General of Financial Affairs of MoH-HQ is responsible for financial management at the central level. This DG is responsible for the preparation of financial statements and release of duly approved fee schedules to the institutions and through them to the clientele. In addition, the Directorate General of Audits, functioning directly under the Minister of Health, scrutinizes financial transactions and related administrative decisions, in coordination with the financial controllers functioning in regions and autonomous hospitals, and recommends necessary corrective action. MoH is also subjected to regular external audit by the State Audit bureau. The private sector institutions do have their own financial systems and control.

Accountability in Relation to the Disadvantaged Groups: The health institutions under the Government do give special consideration to disadvantaged groups such as the people living below subsistence level, the malnourished, and the physically or mentally challenged people. Such groups are exempted from paying the nominal registration and attendance fees that are charged by MoH Institutions. Those requiring antenatal or postnatal care, immunization or treatment for common communicable diseases, are also exempted from paying the nominal fees. Such considerations are also expected from private sector institutions but are not specifically monitored by the Government.

General Independent Oversight Bodies: The Prosecutor General, and the Courts of Law serve as independent oversight bodies and deal with relevant aspects of health services. For instance, inept patient handling consequent to negligence may be dealt with by the Medical Malpractice Committee set up by the Government. Alternatively, an affected party may also independently approach a court of law. This may result in the granting of certain compensation to the affected party, contrary to the desire of the service provider. The oversight bodies do enjoy the authority and independence for the implementation of their decisions, as far as their decisions are consistent with the provisions in the Omani laws. However, such decisions can be challenged, if deemed unfair by any affected party, through an appeals process. This ensures the transparency of the decision process in the oversight bodies.

Transparency of the Procurement /Recruitment Process: Recruitment of staff for the Ministry of Health is undertaken using approved recruitment rules, using joint selection mechanism with the Ministry of Civil Service and is subjected to scrutiny by a Staff Committee at MoH-HQ. Selection of staff is based on academic qualifications, documented and verified experience certificates, selection tests and scores in the qualifying exams (where applicable), and personal interviews by duly constituted expert committees. Such procedures are usually considered to be transparent and fair. Recruitment of staff in the

private sector is entirely its own prerogative, as long as the applicants conform to the qualification requirement for the job, and succeed in the licensing exams conducted by the Ministry of Health.

# 6 HEALTH CARE FINANCE AND EXPENDITURE

This chapter reviews the primacy of public financing of the health sector in Oman, highlights the roles of other sources of finance, and examines other potential avenues for health financing.

## 6.1 Health Expenditure Data and Trends

**Importance of Public Expenditure on Health**

As elucidated earlier, health care in the Sultanate of Oman is predominantly provided and financed by the government. The Government runs 93.1% of hospitals and 97.6% of hospital beds. The majority (87.3%) of health workers (78% of physicians and 92.5% of nurses) work in government-run facilities. The importance of public finance in the health sector may be appreciated better if one reviews the contribution of the Ministry of Health vis-à-vis that of other Governmental health care providers and the private health care providers. See Table 6.1

**Table 6.1 Resources for the Health Care System By Various Health Care Providers (No. and % Share)**

| Health Care Provider | Hospitals | Hospital beds | Health centers, Extended Health Centers & Clinics | Total Manpower | Physicians | Nurses |
|---|---|---|---|---|---|---|
| Ministry of Health | 49 (84.5%) | 4,542 (86.2%) | 140 (15.6%) | 20,438 (80.3%) | 2,981 (71.3%) | 7,909 (85.3%) |
| SQU Hospital | 1 (1.7%) | 294 (5.6%) | 1 (0.1%) | 1,478 (5.8%) | 242 (5.8%) | 555 (6.0%) |
| Medical Services Armed Forces MSAF | 3 (5.2%) | 260 (4.9%) | 31 (3.5%) | ** | ** | ** |
| Medical Services ROP | 1 (1.7%) | 48 (0.9%) | 3 (0.3%) | 260 (1.0%) | 32 (0.8%) | 83 (0.9%) |
| Medical Services PDO | 0 (0%) | 0 (0%) | 9 (1.0%) | 59 (0.2%) | 8 (0.2%) | 35 (0.4%) |
| Private Sector | 4 (6.9%) | 126 (2.4%) | 713 (79.5%) | 3,228 (12.7%) | 919 (22%) | 695 (7.5%) |

*Source: Ministry of Health, Oman ** Manpower data for MSAF not available.*
*Note: Figures in braces show % share of each agency in the total number.*

**Macro-efficiency of the Omani Health Care System**

A study of the Omani health sector by the World Bank in the year 2001 has revealed that

the Omani health care system has achieved high macro-efficiency, considering the Sultanate's remarkable achievements in improving the health status of the population in a relatively short time. [20] The study has noted that "Oman's per capita health spending is much lower compared to other countries worldwide that have similar income levels." It is stated further that "Oman's health expenditure-to-GDP ratio (total and public) is far below that of other countries worldwide that have comparable income levels." In 2005, Oman spent just 2.8% of GDP on health. However, over 80% of the total health expenditure is incurred by the public sector. See Table 6.2 below.

**Table 6.2 Trends in Health Expenditure in Oman**

| Indicators | 1990 | 1995 | 2000 | 2004 | 2005 |
|---|---|---|---|---|---|
| Total health expenditure/capita, US$ | - | 226.0 | 254.0 | 301.0 | 340.0 |
| MOH expenditure per capita* US$ | 135.6 | 151.2 | 157.7 | 194.0 | 206.5 |
| Total health expenditure as % of GDP | - | 3.6 | 3.1 | 3.1 | 2.8 |
| Public sector % of total health expenditure | - | 85.2 | 81.0 | 83.5 | 82.1 |

*Source: Annual Health Report, Ministry of Health, Oman (2005); World Bank Projections; WHO Projections.*
**Exchange rate 1 US$= 0.385 R.O.*

### Private Expenditure on Health

A recent analysis by WHO has revealed that the private sector shares about 17% of the total health expenditure in Oman, while private out-of-pocket expenditure is just around 9%. See Table 6.3.

**Table 6.3 Sources of Finance (%)**

| Source | 2000 | 2004 | 2005 |
|---|---|---|---|
| General Government | 81.0 | 83.5 | 82.1 |
| Private | 19.0 | 16.5 | 17.1 |
| Out of Pocket | 11.3 | 8.7 | 9.1 |
| Insurance, Private firms and corporations | 7.7 | 7.8 | 8.0 |
| External sources | 0.06 | 0.00 | 0.00 |

*Source: WHO Projections (Statistics of Health Expenditure, Forthcoming Publication)*

### Scope of Financing Reforms in Health Care

Due to various factors including health transition, population growth and rising expectations of the people for better quality of care, and the ever-rising cost of health care technology, the Sultanate needs to spend even more in the future on health. The Government is committed to provide free health care to all citizens. The Government's current policy requires that the expatriate employees of the Government and their

dependent families be also provided free health care. Those who are eligible for free services are required to pay a nominal annual registration charge (RO 1 per annum) and a nominal user charge (R.O. 0.2 per OPD visit). Expatriate staff of the private sector are required to pay for Government-run health services at subsidized prices, or make use of the private sector facilities. Major companies, particularly those in the oil and gas sector, do provide medical insurance cover for their employees and dependents as a part of their compensation package. The strain on the public budget has increased, thus compelling the policy-makers to review existing policies and to explore alternative avenues for expanding the resource base. On the invitation of the Government, the World bank has undertaken several exercises on financing options.[26] The latest such exercise was completed in June 2006. Needles to say, the Sultanate continues to weigh various options for health care financing, and evolve a financing policy appropriate to its socio-economic and political environment.

## 6.2 Tax-based Financing

## 6.3 Insurance

## 6.4 Out-of-Pocket Payments

## 6.5 External Sources of Finance

## 6.6 Provider Payment Mechanisms

# 7 HUMAN RESOURCES

This chapter presents the human resources situation and manpower production in Oman and highlights the prospects for workforce self-sufficiency in the foreseeable future.

## 7.1 Human resources availability and creation

The stock of health workforce in the Sultanate has grown significantly over the years. See Table 7.1. The overall health workforce stock (now over 25,000) in the Sultanate registered 24% increase during the 6th plan period. The number of physicians, in the Sultanate as a whole, increased by 28% during the 6th plan, to reach almost 4,200. The number of nurses increased by 18% and reached a figure of over 9,000. Among other allied professions, high growth was observed in respect of dentists (71%), pharmacists (52%) and radiographers (44%).

**Table 7.1 Health Workforce Stock in the Sultanate 1995 / 2000 / 2005**

| Workforce Category | Overall Number | | | %Change | |
|---|---|---|---|---|---|
| | End-1995 | End-2000 | End-2005 | 1995 -2000 | 2000 2005 |
| Physicians | 2,477 | 3,258 | 4,182 | 31.5% | 28.4% |
| Nurses | 6,036 | 7,829 | 9,277 | 29.7% | 18.5% |
| Lab. Technicians | 670 | 910 | 1,169 | 35.8% | 28.5% |
| Asst. Pharma. | 367 | 688 | 912 | 87.5% | 32.6% |
| Radiographers | 232 | 334 | 480 | 44.0% | 43.7% |
| Sanitarians | 191 | 211 | 168 | 10.5% | -20.4% |
| Teachers/Tutors | 144 | 201 | 268 | 39.6% | 33.3% |
| Dentists | 143 | 262 | 448 | 83.2% | 71.0% |
| Physiotherapists | 69 | 150 | 161 | 117.4% | 7.3% |
| Pharmacists | 356 | 495 | 753 | 39.0% | 52.1% |
| Med./H. Asst. | 45 | 11 | 7 | -75.6% | -36.4% |
| Med. Orderlies | 2,115 | 1,723 | 2,343 | -18.5% | 36.0% |
| Oth. Paramed. Staff | 556 | 717 | 1,065 | 29.0% | 48.5% |
| Oth. Tech. Staff | 339 | 220 | 235 | -35.1% | 6.8% |
| Oth. Supp. Staff | 4,334 | 3,461 | 3,859 | -20.1% | 11.5% |
| H. Admin./Experts | 107 | 101 | 136 | -5.6% | 34.7% |
| **Overall** | **18,181** | **20,571** | **25,463** | **13.1%** | **23.8%** |

*Source: Annual Health Reports of Ministry of Health, Oman*

The corresponding changes in the workforce densities in major health professional categories over the last decade were as shown in Table 7.2

**Table 7.2 Changes in Workforce Densities 1995-2005**

| Workforce Density | End-2005 | End-2000 | End-1995 |
|---|---|---|---|
| Physicians per 10,000 population | 16.7 | 13.6 | 11.8 |
| Nurses per 10,000 population | 37.0 | 32.6 | 28.9 |
| Dentists per 10,000 population | 1.8 | 1.1 | 0.7 |
| Pharmacists per 10,000 population | 3.0 | 2.1 | 1.7 |

*Source: Annual Health Report, Ministry of Health, Oman (2005).*

Workforce densities have indeed improved over the last decade. Number of physicians per 10,000 population in the Sultanate has reached 16.7 in End-2005 up from 11.8 in End-1995. Number of nurses per 10,000 population has reached 37.0 in End-2005, increased from 28.9 in End-1995.

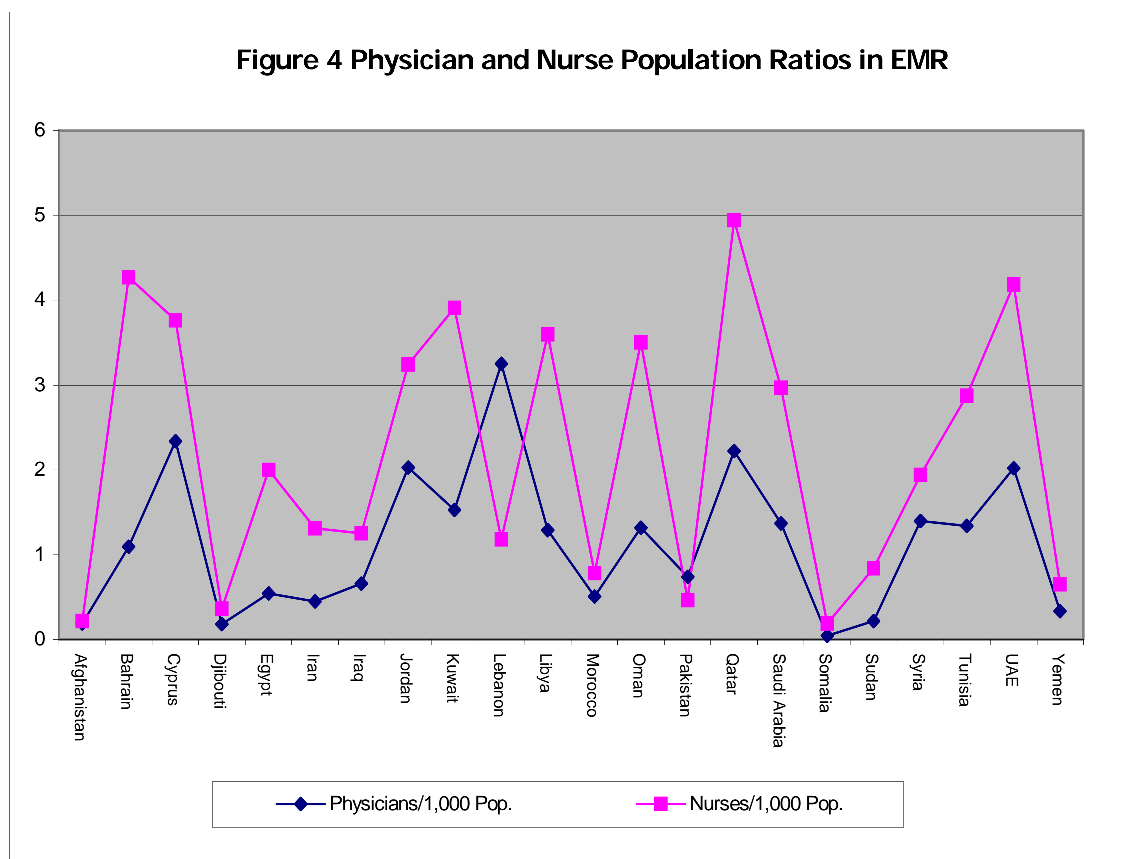
Health workforce availability in Oman is largely comparable to other countries at similar per capita income level in the region, but significantly lower than that in industrialized countries.25 See Table 6.3 and Chart 6.1 in the next page.

**Table 7.3 Workforce Density in Selected Countries**

| Country | Physician Population Ratio | Nurse Population Ratio | Dentist Population Ratio | Pharmacist Population Ratio |
|---|---|---|---|---|
| Bahrain 2004 | 10.9 | 42.7 | 4.6 | 6.2 |
| Cyprus 2002 | 23.4 | 37.6 | 8.2 | 1.8 |
| Jordan 2004 | 20.3 | 32.4 | 1.2 | 3.1 |
| Kuwait 2001 | 15.3 | 23.6 | 2.9 | 3.1 |
| Libya 1997 | 12.9 | 36.0 | 1.4 | 2.5 |
| Oman 2004 | 13.2 | 35.0 | 1.9 | 5.3 |
| Qatar 2001 | 22.2 | 49.4 | 3.7 | 9.0 |
| S. Arabia 2004 | 13.7 | 29.7 | 1.7 | 2.2 |
| UAE 2001 | 20.2 | 41.8 | 3.3 | 3.8 |
| France 2004 | 33.7 | 72.4 | 6.6 | 10.6 |
| Germany 2003 | 33.7 | 97.2 | 7.8 | 5.8 |
| Japan 2002 | 18.8 | 77.9 | 7.1 | 12.1 |
| UK 1997 | 23.0 | 121.2 | 10.1 | 5.1 |
| USA 2000 | 25.6 | 93.7 | 16.3 | 8.8 |

Number Per 10,000 Population

*Source : The World Health Report 2006*




| | Country Year | Physicians/1,000 Pop. | Nurses/1,000 Pop. |
|---|---|---|---|
| 1 | Lebanon 2001 | 3.25 | 1.18 |
| 2 | Qatar 2001 | 2.22 | 4.94 |
| 3 | Jordan 2004 | 2.03 | 3.24 |
| 4 | UAE 2001 | 2.02 | 4.18 |
| 5 | Kuwait 2001 | 1.53 | 3.91 |
| 6 | Syria 2001 | 1.40 | 1.94 |
| 7 | Saudi Arabia 2004 | 1.37 | 2.97 |
| 8 | Tunisia 2004 | 1.34 | 2.87 |
| 9 | Oman 2004 | 1.32 | 3.50 |
| 10 | Libya 1997 | 1.29 | 3.60 |
| 11 | Bahrain 2004 | 1.09 | 4.27 |
| 12 | Pakistan 2004 | 0.74 | 0.46 |
| 13 | Iraq 2004 | 0.66 | 1.25 |
| 14 | Egypt 2003 | 0.54 | 2.00 |
| 15 | Morocco 2004 | 0.51 | 0.78 |
| 16 | Iran 2004 | 0.45 | 1.31 |
| 17 | Yemen 2004 | 0.33 | 0.65 |
| 18 | Sudan 2004 | 0.22 | 0.84 |
| 19 | Afghanistan 2001 | 0.19 | 0.22 |
| 20 | Djibouti 2004 | 0.18 | 0.36 |
| 21 | Somalia 1997 | 0.04 | 0.19 |

*Source : Based on The World Health Report 2006*

**Health Professional Education in Nursing and Allied Professions.**

To keep pace with the development of the health care infrastructure and minimize dependence on manpower import, MoH felt the need to accelerate human resources development and began to coordinate its efforts to train medical and paramedic staff locally and abroad. The Ministry's first major institution viz. the Institute of Health Sciences (IHS) was established in 1982. IHS offered training in Medical Laboratory Sciences since its commencement in 1982. Training in Radiology and in Physiotherapy was introduced in 1986 and in Dental Surgery Assistance in 1993. In 1991, regional nursing institutes were established in different regions in order to ensure equitable opportunities for admission to all students across the Sultanate, to facilitate regional development, and to ensure proper distribution of nurses in different health regions. In addition, MoH also set up new institutes for education in other allied professions viz. the Oman Institute of Public Health (1991), the Oman Institute for Assistant Pharmacists (1991) and the Oman Institute of Medical Record Technology (2002). Enrollment in general nursing has grown dramatically over the years consequent to the growth of educational facilities. There were 1,565 students studying general nursing in 2005 (all grades combined), which was almost 7 times that in 1990. SQU has been conducting a bachelor's degree program in Lab. Technology. It has recently mounted also a BSN program with an intake of about 50 per year, with provision for direct admission of diploma graduates to a higher grade. 709 students earned their basic diplomas in a health profession from MoH institutes during 2005. This figure is about 15 times the total number qualified in 1990. Altogether 7,079 students qualified from MoH institutes over the years. General nursing graduates represented about 74% of all graduates. Table 7.4 and Table 7.5 present the information on the educational capacity and outputs of MoH educational institutions respectively.

**Table 7.4 Educational Institutions for Health - 2005**

| Type of Institution | Current | | Planned | | |
|---|---|---|---|---|---|
| | Number of Institutions | Capacity | Number of Institutions | Capacity | Target Year |
| Medical Schools | 1 | 91 | 1 | 89 | 2011 |
| Postgraduate training Institutions (OMSB) | 1 | Flexible | - | - | - |
| College of Dentistry | 0 | - | 1 | 60 | 2012 |
| College of Pharmacy | 0 | - | 1 | 58 | 2008 |
| College of Nursing | | | 1 | 50 | 2007 |
| College of Lab. Technology | 1 | NA | | | |
| Nursing Schools | 12 | 554 | - | - | - |
| Midwifery Schools (Post-Basic) | 3 | 48 | - | - | - |
| Paramedical Training Institutes | 3 | 155 | - | - | - |
| School of Specialized Nursing (Post-Basic) | 1 | 60 | | | |

*Note: 1.Capacity is defined to be the annual number of graduates from these institutions.*
*2. Planned Institution means an existing institution yet to graduate a batch.*
*Source: Annual Health Report, Ministry of Health, Oman (2005).*

**Table 7.5 Number of Graduates from MoH Educational Institutes – 2005**

| Profession /Year | Till 2004 | 2005 |
|---|---|---|
| General Nursing | 4,670 | 554 |
| Med. Lab. Sciences | 380 | 40 |
| Radiography | 267 | 29 |
| Physiotherapy | 101 | 0 |
| Dental Surgery Asst | 141 | 16 |
| Public Health Insp. | 164 | 0 |
| Health Education | 134 | 0 |
| Assistant Pharmacists | 437 | 52 |
| Nutrition | 62 | 0 |
| Medical Record | 14 | 18 |
| Total | 6370 | 709 |

*Source: Annual Health Report, Ministry of Health, Oman (2005).*

### Medical Education in Oman

Medical education in Oman commenced in the year 1986. Prior to that the Omani students had to go abroad in order to pursue medical degrees. The College of Medicine & Health Sciences, Sultan Qaboos University (SQU) enrolled its first batch of 45 students for MD in 1986. Altogether 876 students earned their MDs from SQU over the period 1993 to 2005. About 60% of these graduates were females. Medical education has so far been mainly the responsibility of SQU, which increased its intake to 120-141 in 1999-2005. MoH actively collaborates with the SQU College in numerous ways including the use of its major hospitals for clinical practice and internship etc. Omanis are also sent abroad for undergraduate medical education. Recently a private medical college viz. Oman Medical College has been established. This college enrolled 89 students in 2004. MoH supports this college by permitting it to use a major regional hospital as its clinical practice area. The college also receives direct or indirect support from the Government. The MD degree by the Sultan Qaboos University is accredited by the General Medical Council of the United Kingdom, while the Oman Medical College is affiliated to and accredited by the University of West Virginia, US. See Table 7.6.

**Table 7.6 Medical Graduates from Sultan Qaboos University 1993-2005**

| Year | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 | 1997 | 1996 | 1995 | 1994 | 1993 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of Graduates | 91 | 84 | 78 | 74 | 88 | 59 | 75 | 82 | 63 | 56 | 41 | 40 | 45 |

*Source: Office of the Dean, College of Medicine and Health Sciences, Sultan Qaboos University.*

Postgraduate medical education commenced in Oman with the establishment of the Oman Medical Specialty Board (OMSB) in 1994, as the highest supervisory body of all postgraduate medical training programs in Oman. OMSB has now been reconstituted by

the Government to implement a Royal Decree (No.31/2006), enhancing its status to a statutory body chaired by HE the Minister of Health The newly constituted Board is expected to further develop postgraduate residency programs in the country with the active support of the Ministry of Health, SQU, Royal Oman Police Medical Services and the Armed Forces

Medical Services. The Ministry of Health has signed MoUs with a number of countries and international colleges, which run local chapters, hold local examinations with MoH support or facilitate overseas training and experience of Omani physicians. Many residents have already cleared all requirements of OMSB and international boards/colleges, and earned their full memberships of such bodies. Many Omani physicians have also studied locally or abroad and earned their masters or doctorate degrees.

**Self-reliance in Human Resources**

As the health care infrastructure reaches the consolidation phase, the pace of Omanization is expected to accelerate even at the current rate of manpower production.28 During the 7th Five-Year Plan (2006-2010), the Ministry expects to consolidate its gains in human resources development. Nurse Omanization level is expected to increase to over 80%, with several regions touching 100%. Over 80% Omanization level may be reached by End-2010 in case of pharmacist (84%), physiotherapist (89%), radiographer (88%), assistant pharmacist (85%) etc. Physician Omanization level is expected to increase to about 46% by End-2010. Omanization level in physician specialists is expected to go up from 23% in End-2005 to 38% by End-2010. Specialty Omanization is expected to reach reasonable figures (40-47%) in case of two key specialties viz. General Pediatrics and Internal Medicine. However, in two other major specialties viz. Obstetrics & Gynecology and Anesthesiology, Omanization level is likely to continue to be low (10-30%) even in End-2010.

## 7.2 Human resources policy and reforms over last 10 years

**Human Resources Planning**

**Objective of Human Resources Planning**: The goal of human resources planning in MoH is to optimize the human resources subsystem of the health sector (i.e. planning, production and utilization of manpower) through application of scientific principles of planning.

**Policy Analysis & Development:** Human resources planning in Oman deals with the development of human resources policies and programs in relation to health policies and plans, and detailed planning for the human resources component of the health care system.24 Strategic planning for human resources development is undertaken as an integral part of health development planning.20 Annual HRD plans of action are prepared as a supplement to the 5-year HRD plan.22 In addition to this, workforce planning embraces a variety of tasks round the year. Such tasks include: workforce planning for new hospitals, re-assessment of human resources situation in existing hospitals and health centers, manpower production planning for selected categories (focusing on Omanization), fellowship planning, studies on qualitative aspects such as development of staff potentials and development of MIS etc.

**Planning Models:** The Ministry has developed its own tools for category-wise health care human resources planning and for hospital manpower planning. The team has built user-friendly computer-based models for physician and nurse requirement planning.[11,12]. These models mostly utilize available service statistics and certain context-specific information. An inter-active/ participative approach is used in order to involve all concerned professional

leaders. The documents are perused by the highest echelon of the Ministry, discussed thoroughly with the concerned executives and implemented.

## 7.3 Planned Reforms

# 8 HEALTH SERVICE DELIVERY

This chapter discusses the various forms of health care provided in Oman and the nature of the health care delivery system.

## 8.2 Service Delivery Data for Health services

**Service Coverage:** The Ministry's health services are almost universally accessible. Except for coverage of people with access to safe drinking water (75%) not within MoH jurisdiction, almost all health care components have reached nearly 100% coverage. See Table 8.1.

**Table 8.1 Service delivery data**

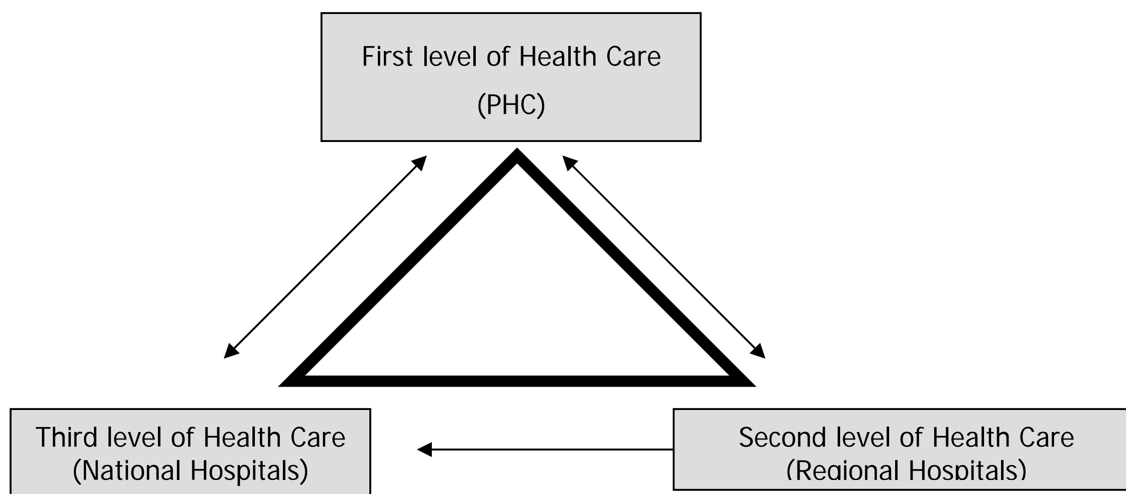
| Coverage (Percentages) | 2005 |
|---|---|
| Population with access to health services | 97 |
| Pregnant women attended by trained personnel | 99 |
| Deliveries attended by trained personnel | 98 |
| Infants attended by trained personnel | 98 |
| Infants immunized with BCG | 99 |
| Infants immunized with DPT3 | 99 |
| Infants immunized with Hepatitis B3 | 99 |
| Infants fully immunized (measles) | 98 |
| Infants immunized with OPV3 | 98 |
| Population with access to safe drinking water | 75 |
| Population with adequate excreta disposal facilities | 91 |

*Source: Ministry of Health * Data for 2003 (Source: 2003 census)*

### Personal Health Services

MoH makes comprehensive health care available through its health care delivery institutions at multiple levels, which are integrated in a referral chain. Clinics and hospitals run by other agencies are also linked with the MoH system through a referral chain. MoH ensures that no Omani is denied the benefit of medical care. It sponsors patients for treatment abroad, if the required treatment facilities are not available in the country. All demands / recommendations for overseas treatment are processed through a duly constituted Treatment Abroad Committee. MoH runs a Central Blood Bank, which stores and distributes blood and related products conforming to the strict quality standards. It also spearheads a nation-wide blood donation campaign. Primary Health Care is provided mainly through the health centers, extended health centers (EHCs) and local hospitals. Antenatal care (ANC), Postnatal care (PNC) and birth spacing services are given in most MoH institutions to all pregnant mothers and women in reproductive age group. The

regional referral hospitals mainly provide secondary medical care, while the national referral hospitals (The Royal Hospital, Khoula Hospital, Al Nahdha Hospital and Ibn Sina Hospital) mostly provide tertiary medical care. A referral system links multiple levels of care through a pyramidal structure as shown below.




## 8.2 Primary Health Care

MoH considers Primary Health Care (PHC) as the main entry point for other levels of care. All the essential elements of PHC are covered in the activities of primary health care centers viz. health centers, EHCs and local hospitals. PHC includes a wide range of services for the mother and child, the prevention and treatment of local ailments, and education and awareness about common health problems and how to prevent these problems. The primary care service delivery system is well established and is based on clear principles. The basic building block is the health center, typically serving a local population of about 10-15 thousand population, with a health team comprising doctors, nurses and support staff, and on-site diagnostic facilities and pharmacy. In some areas, some health centers have a small number of attached beds (2-4 beds) mainly for maternity care and observation, and some may operate with less staffing and reduced facilities due to the size of the catchment area population. This makes health care more accessible to populations who would otherwise have to travel long distances to visit a health center. Although the PHC facilities are distributed equitably all over the country, because of the scattered population over a wide area and in small settlements, MoH also extends the services of mobile medical teams to about 2% of the population living in remote mountainous areas. The next level of organization for PHC system is the Wilayat. At this level, the boundaries and populations served by the health system match those of local government. This provides the ideal platform for inter-sectoral collaboration on a broader health agenda where the determinants of health need to be addressed by a multiplicity of agencies and the wider community. The Wilayat health committees, chaired by the Wali (local governors), provide the main forum for developing and implementing local programs of inter-sectoral action to promote health. The Wilayat and the health center are both natural levels of organization for inducting the community support group volunteers, whose main orientation is towards health education in the community. While the health center is the main vehicle for giving access to the health care for local populations, there is a complementary mode of service, which is the extended health center. Extended health centers provide outpatient access to specialist clinics in a polyclinic setting in certain basic

specialties (such as obstetrics & gynecology, pediatrics, ophthalmology, ENT and family medicine) as an alternative to referral to hospital outpatient departments. Specialist secondary and tertiary care is accessed through referral from health centers. The Health Centers and EHCs do not provide any inpatient care services. The local hospitals, all with a small number of beds, provide primary health care services to the people in the specified catchment area of the hospital, and render basic inpatient care if necessary. See Table 4.1 below.

**Table 4.1 Infrastructure for Primary Health Care in Ministry of Health (2005)**

| PHC Facility | 2005 |
|---|---|
| Extended Health Center* | 11 |
| Health Center with Beds** | 67 |
| Health Center without Beds | 60 |
| Local Hospitals | 29 |
| Total Primary Health Care Units | 167 |

** 5 of these EHCs are attached to regional hospitals and 1 to a Wilayat Hospital. ** For short stay only.*

A Central Primary Health Care Committee and a Directorate of Primary Health Care under DGHA, MoH-HQ spearhead primary health care development. An Inter-Ministerial Health Committee, with representation from relevant ministries, promotes inter-sectoral collaboration. Another form of integration among different sectors related to health is the child care plan or the "National Women and Child Care Plan (NWCCP)" in which other government agencies and NGOs are involved. In addition to inter-sectoral collaboration, MOH emphasizes community participation in planning and implementing primary health care. The Community Support Groups (CSG) and Wilayat Health Committees together facilitate inter-sectoral collaboration and community involvement at the grassroots level. Several community based initiatives such as Healthy Wilayat Project, Healthy Lifestyle Program, Healthy City and Healthy Village projects are implemented in order to promote PHC. These projects help to increase the awareness of the respective communities about environmental and health problems, and thus create community support for health actions.

## 8.5 Secondary/Tertiary Care

**Secondary Health Care:** Secondary health care (or specialized care) is provided through regional and sub-regional (Wilayat) hospitals. Each health region has one main regional hospital and some have one or more Wilayat hospitals. The Regional referral hospitals are the main source of secondary health care in a health region providing most specialty services including the following: General Medicine, Dermatology, Nephrology, Endocrinology, Cardiology, General Surgery, Obstetrics & Gynecology, Pediatrics, Orthopedics, Ophthalmology, ENT, Pathology, Radiology and Emergency Medicine. These hospitals provide ambulatory and inpatient specialty services to the population of the region. The hospitals are well-staffed and well-equipped to manage all secondary level curative health care services. These hospitals entertain all ambulatory and inpatient cases through a mandatory appointment system. Most such hospitals have a polyclinic or EHC in its proximity, which serves as a first-level specialty service with walk-in facility, and as a filter for patients to be referred to a regional hospital. Limited secondary health care services are provided by the Wilayat hospitals (ambulatory as well as inpatient), and to some extent even in certain local hospitals. Patients requiring specialized care are referred

from primary to secondary care through a well-established referral system, which identifies the reason and urgency for referral.16 The referred institution is requested to provide the referring institution with feedback on all the referred cases. Chronic cases requiring long-term care are followed-up by the PHC facility in the catchment area where the patient resides. All regional referral hospitals and major Wilayat hospitals are autonomous hospitals with a reasonable degree of decision-making authority. A secondary health care institution may also extend certain primary health care services for patients in its catchment area, if PHC centers are less accessible to the clientele. These hospitals also serve as a vital link in the patient referral system between the primary and tertiary health care facilities. See Table 4.2.

**Table 4.2 Infrastructure for Secondary Health Care in MoH (2005)**

| Type of Institution | Number | No. of Beds |
|---|---|---|
| Regional Hospitals | 9 | 2,163 |
| Wilayat Hospitals | 6 | 541 |
| EHCs with Secondary Care Facility* | 2 | |
| Overall | 19 | 2,704 |

** Bausher EHC and Wattyah Obstetrics & Gynecology Center both in Muscat*

**Tertiary Health Care:** Tertiary care (i.e. super-specialty care ) or specialized care requiring a higher competence level, is provided through national referral hospitals viz. the Royal Hospital, Khoula Hospital, Al Nahdha Hospital and Ibn Sina Hospital. Each of these hospitals has specialty departments in a few specialties, which act as the last resorts within the country for tertiary care to which deserving patients can be referred. Ibn Sina Hospital is a psychiatry hospital and the others are general acute care hospitals. Sultan Qaboos University Hospital, with its autonomous status, augments the tertiary health care services. The Governorate of Dhofar's Sultan Qaboos hospital offers partial tertiary health care services to the people of the region. The Royal Hospital enjoys maximum autonomy within MoH, as it has the status of at least that of regional directorate general, while the other three hospitals are autonomous hospitals within the DGHS of Muscat Governorate. Certain national centers such as the oncology center form part of the Royal Hospital. As stated earlier, the Government makes sincere efforts to provide opportunities for treatment at government expense outside the country for certain services, which are not available in the country. The numbers of patients treated outside the country have come down in recent years as more and more services become available in the country. Only a total of 121 patients were treated outside the country for conditions requiring sub-specialty care. This clearly shows that Oman is almost fully self-reliant in health care facilities today. See Table 4.3.

**Table 4.3 Infrastructure for Tertiary Health Care at National Level in MoH (2005)**

| Name of Institution | Specialties Available | Beds | Specialties Available | Beds |
|---|---|---|---|---|
| Royal Hospital<br>Total Beds =621 | General Medicine | 96 | Cardio-Thoracic | 38 |
| | Gastroentrology | 16 | Pediatric Surgery | 24 |
| | Hematology | 4 | Pediatrics | 78 |
| | Oncology | 24 | SCBU | 30 |
| | Neurology | 14 | Pediatric ICU | 6 |
| | Cardiology | 22 | Obstetrics & Gynecology | 130 |
| | Nephrology | 12 | ICU (Adult) | 7 |
| | General Surgery | 58 | CCU | 8 |
| | Urology | 26 | VIP, Private, Spl. Nursing Ward | 28 |
| | | | | |
| Khoula Hospital<br>Total Beds =436 | General Surgery | 29 | SCBU | 21 |
| | Plastic Surgery | 64 | Obstetrics & Gynecology | 67 |
| | Burns | 12 | ICU | 22 |
| | Neurosurgery | 50 | VIP, Private | 19 |
| | Orthopedics | 152 | | |
| | | | | |
| Al Nahdha Hospital<br>Total Beds =88 | Dermatology | 12 | Dental | 12 |
| | Ophthalmology | 32 | CCU | 4 |
| | ENT | 24 | VIP, Private | 4 |
| | | | | |
| Ibn Sina Hospital<br>Total Beds =70 | Psychiatry | 70 | | |

*Source: Annual Health Report, Ministry of Health, Oman (2005)*
**Excludes information pertaining to Sultan Qaboos Hospital's tertiary care availed mainly by the region's inhabitants.*

**Utilization:** The mean number of visits per person in the year 2005 for all types of outpatient visits is 4.2, brought down from a figure of 5.8 in 1995 through rationalization of the use of services. There are about 52,037 women registered for antenatal care and about 50,000 infants immunized for serious childhood diseases in 2005. As many as 255,675 patients have been rendered inpatient care in 2005 with an average length of hospital stay of only 4 days. Although there are 2.1 Hospital Beds/1,000 population, the bed occupancy rate is only 54%. This suggests that the Ministry has successfully brought down unnecessary hospital admission by proper admission and discharge polices (viz. refusal to retain long-stay geriatric patients in major hospitals). However, this also implies unused inpatient bed capacity, which may necessitate a restructuring of the hospital system in Oman.20

## 8.5 Non personal Services: Preventive/Promotive Care

The Ministry of Health recognizes the fact that it has the prime responsibility for extending to the Omani society certain public health services, especially two of its vital components viz. (a) Communicable Disease Surveillance, Prevention and Control, and (b) Non-Communicable Disease Prevention and Control. MoH public health services in the area of preventive and promotive care also include the following areas:

- Strengthening Maternal and Child Health Care / IMCI.
- Combating Malnutrition.
- Control of AIDS and Sexually Transmitted Diseases.
- Safety and Injury Control.

- Supporting Environmental Health Activities and Malaria Eradication.
- Strengthening Public Health Education and Communication Activities.
- Development of Primary Health Care Activities.

Other activities include immunization (EPI), birth spacing and school health. In addition to these, there are a number of initiatives for health promotion. These include: Baby-friendly Hospital Initiative, promotion of breast-feeding, proper nutrition, advocacy for birth spacing, and other community based initiatives e.g. Wadi Ma'awel Healthy Wilayat Project, Healthy Life Style Program in Nizwa, Healthy City in Sur, Healthy Village in Qalhat, and Healthy villages and neighborhoods programs in 4 Wilayats of Muscat Governorate, Healthy City in Sohar, Healthy Life Style Program in Salalah etc. These initiatives aim to increase the awareness of the respective communities to environmental health problems, and to create a proper setting that supports health actions.

**Communicable Disease Surveillance, Prevention and Control:** MoH regularly monitors the incidence of all communicable diseases through its epidemiological & disease surveillance directorate. It notifies the concerned national and international authorities through providing timely information on the incidence of communicable diseases (or in the extreme case the outbreak of an epidemic or emergence of a pandemic situation), and takes necessary preventive action. Public health laboratories serve as an essential adjunct to public health services. Medical fitness certificates are issued to all prospective employees based on laboratory / other investigative services, and this helps avoiding the possible impact of importing workforce suffering from (or infected with certain) deadly communicable diseases. High-risk groups such as pregnant mothers and children under the age of five are given necessary immunization against vaccine-preventable diseases and nutrition supplements. Special emphasis is given to combating serious communicable diseases such as HIV/AIDS, leprosy, tuberculosis, poliomyelitis, neonatal tetanus and malaria etc. The Ministry of Health safeguards national and international health by protecting its citizens by responding with alacrity whenever an international health emergency arises (e.g. SARS or avian flue). A central public health laboratory and the investigative laboratory services available almost in every health care institution under MoH together serve as a very useful resource for diagnosing health problems.

**Non-Communicable Disease Prevention and Control:** Being aware of the rapid economic and social development in the Sultanate, the Ministry is concerned that this is leading to unhealthy life-styles, ageing due to increased life expectancy, and the consequent emergence of new health problems. MoH has already embarked on a special initiative on non-communicable disease prevention and control designed to fight current and potential future problems such as obesity, cardiovascular disorders and diabetes.

**Environmental Health:** The Ministry of Regional Municipalities, Environment and Water Resources provides a range of services including environmental health, pest control, air and water pollution monitoring. The Directorate of Environmental and Occupational Health of MoH, apart from supporting the municipalities to ensure safe and healthy environment, also renders Poisoning Control & Management and Occupational Health services. The issue of waste management has been accorded high priority. An area has been allocated for the development of a dedicated hazardous waste disposal site. Modern solid waste facilities are now being constructed in several Wilayats including Muscat, Salalah and other major cities. Pollution monitoring is undertaken by government-run laboratories. Industrial sites are inspected periodically, and fines imposed (or operating license cancelled in extreme cases), on the basis of 'the polluter pays' principle. Water management is vital with Oman relying mainly on groundwater and desalinated water. Problems have been faced in the past with seawater intrusion and groundwater contamination in some rural areas. A master plan has

been prepared for the supply of water to the capital area until 2010. It is ensured that about 100-200 liters of safe water are available per person per day. A number of projects are underway including a wastewater treatment plant for the capital.

**Health Promotion:** MoH has initiated a special educational campaign to inform and educate the people so that they share a responsibility in preserving good health by adopting healthy life-styles, physical exercise, avoidance of tobacco and other substance abuse, etc. Nutrition Education is again an essential component of the health care services, geared towards ameliorating the health of the malnourished children, developing healthy food habits, and fighting obesity and diseases of affluence related to food habits. Apart from this, MoH also promotes good health through its health education campaign and school health services. Health education, considered to be an important and integral part of the health services, is provided through its various institutions throughout the Sultanate.

**Accident Prevention & Emergency Care:** The Ministry pursues a special initiative to prevent accidents and emergencies in collaboration and coordination with all related agencies including the Royal Oman Police (ROP). It offers ambulance services in most of its health care delivery institutions as an integral part of its emergency medicine services available in all major hospitals under MoH.

## 8.6 Long Term Care

**Rehabilitation Services:** MoH provides physiotherapy and a modicum of rehabilitation services as an essential component of its health care package, while major social care services including rehabilitation support are provided by the Ministry of Social Development. Services of qualified physiotherapists are available in most national and regional hospitals, some Wilayat hospitals and extended health centers. The Ministry's services are generally directed towards preventing disability, relieving pain, and improving or restoring physical or mental function. Services of professionals in occupational therapy, orthotics and prosthetics are also available in some MoH hospitals.

## 8.7 Pharmaceuticals

MoH ensures that only the carefully chosen and licensed drugs are allowed to be sold or used in the country. It procures only the approved drugs for use of the public hospitals and health centers, and distributes these to the institutions, thus ensuring that the patients derive optimum benefits from drugs. Its control of the prescription of narcotic and other controlled drugs helps to keep drug addiction in check. By exercising its price control authority, it tries to ensure that the consumers are not charged exorbitantly for drugs purchased by them from the retail pharmacies, which are also regulated by MoH. The Ministry's Drug Information Center helps to ensure that the physicians and patients have pertinent information for prescription and use of drugs. MoH pursues a proactive policy on promoting the use of a list of essential drugs, rational use of drugs and avoidance of poly-pharmacy. Clinical pharmacists are being increasingly used to monitor and implement best pharmaceutical practices.

## 8.8 Technology

# 9 HEALTH SYSTEM REFORMS

This chapter sums up the on-going health sector reforms, and postulates expected future reforms in order to face the emerging health care challenges.

## 9.1 Summary of Recent and planned reforms

**Health Sector Reforms Underway**

Health services organization and management systems are continuously revised in tune with the decentralization policy through a variety of initiatives:

- Strengthening management of regional directorates general through leadership development and management training.
- Toning up PHC system through further empowerment of Wilayat health directorates and management training.
- Incorporating elements of social care, geriatric care and other home-based services.
- Improving management of regional referral hospitals through monitoring hospital performance, and providing timely feedback on performance assessment.
- Further modernization and strengthening of national referral hospitals.
- Pushing community based initiatives further in order to optimize PHC system goals.
- Improving financial performance of the health care system through better financial auditing and management.
- Continued use of Total Quality Improvement (TQI) initiatives in PHC and covering more hospitals under TQI.

Health planning will continue to be improved through various means:

- Streamlining health information system and medical record systems through greater use of ITC and e-Health strategy.
- Improving methodology for result-based health planning.

Hospital management is being strengthened on a sustained basis through a series of measures:

- Strengthening implementation of hospital autonomy through better performance management using hospital performance indicators.
- Training hospital executives in hospital management and leadership skills.
- Emphatically implementing patient referral systems.
- Toning up management of medical errors and malpractice.

Human resources planning and management systems are being strengthened in numerous ways:

- Scrupulously implementing Omanization plans for achieving self-reliance.
- Toning up education and training for most health professions.
- Greater use of workforce planning models to ensure rational staffing of hospitals.
- Toning up continuing professional education of staff.

- Actively pursuing Omanization of health workforce in the private sector.

The Ministry of Health will continue to promote greater public-private interactions and solicit greater private sector involvement in health care through:

- Extending training facilities.
- Providing technical support in order to start hospitals or clinics.

## Likely Future Reforms in the Health Sector

**Further Decentralization:** MoH has implemented the decentralization strategy in the regions. The differentials among the regions in achieving success in its implementation may be objectively assessed, and based on the situation analysis, MoH may extend more autonomy (or restrict authority) in identified regions. MoH may re-define the role of the HQ (and shrink it in the future), and empower the regions with greater autonomy. MoH may further restructure the health care delivery system with a view to incorporating beneficial aspects of private sector management. Examples of such reforms include, for example, further developing the mechanisms for cost-containment, improved efficiency, improved quality of care and consumer satisfaction.

**Customer Focus:** The Omani health system already practices the basic client-orientation (or patient-centered) approach. All health centers benefit from the existence of Community Support Groups (CSG), many of which are very actively involved in health care planning, monitoring and implementation. To infuse greater customer focus in Oman's health care system, the concept of CSG may be suitably extended to the clientele of major hospitals as well. MoH hospitals employ public relations staff to act as a link between health care providers and patients or their attendants. The present PR concept may be extended further so that the PR units can emerge as "Patient Advocacy & Liaison Service."

**Reduction of waiting times:** The patients in Oman are easily able to see a primary care physician, although they have to wait for some time to see a specialist. A patient requiring a surgery may be operated within a week, or he may be put on a short waiting list. However, if the surgery is not an immediate requirement (or it is a cold case), the patient may have to wait, in certain cases, for up to 3 months. When a patient visits a hospital to see a physician, he may have to wait for some time at the OPD. Similarly, he may have to wait to receive medicine from the pharmacy, or to undergo a laboratory test or a radiography. Though such waiting is normal anywhere in the world, the patients sometimes tend to develop a negative attitude to a service because of such waiting. Systematic information on waiting time may be collected, and MoH may lay down waiting time standards for the health institutions at various levels, and monitor these as a routine.

**Patients' representation on hospital boards:** Such representation is currently non-existent in Oman, because the hospitals serve as extended wings of the Government. The Government may wish to promote further corporatization of hospitals in the Sultanate. The Ministry may expand the autonomous hospitals' management boards to include community representatives, who will thus have greater say in hospital planning and management.

**Introduction of Long-term Care:** Currently, there are no health care facilities in Oman for the treatment of patients requiring health care for extended periods. The Ministry may consider extending geriatric services and care of chronically disabled cases (bed-ridden cases).

**Promoting Omanization in the Private Sector:** The private health sector is almost fully manned by expatriates. MoH may like to explore fully the employment potentials for the MoH educational institutes' graduates in this sector. Omanization in this segment is a great challenge, because salary and perquisites offered by the private clinics are not

attractive enough for Omani professionals. Any move to expedite Omanization in the private health sector may lead to higher costs and diminished profit margins. The private sector may play an increasing role in health manpower production. All these developments may signal further boost to human resources development in the Omani health sector.

# 10 REFERENCES


1. Publication of the Ministry of Information, Oman (http://www.omanet.om)
2. Annual Health Report, Ministry of Health (2005), Oman. (http://www.moh.gov.om)
3. Publication of the Oman Information Center (http://www.omaninfo.com/)
4. 'The World Health Report 2000 (Health Systems: Improving Performance)'. WHO Geneva, 2000.
5. 'Report of the National Health Survey 2000', Ministry of Health, Oman (2001).
6. 'Beyond 2003 (Situation Analysis of Children and Women in Oman)', UNICEF Oman, 2006
7. Bosch Donald T. 'The American Mission Hospitals in Oman 1893-1974' Muscat.
8. 'Health for All by the Year 2000: The Alma Ata Declaration', WHO Geneva 1978.
9. '5-Year Health Development Plan for the Sultanate of Oman (1991-95)', Ministry of Health.
10. Ghosh Basu. 'Health Manpower Development Plan for the Sultanate of Oman (1991-95)', Ministry of Health and WHO-EMRO (February 1991).
11. Ghosh Basu and George C. 'Nurse Requirement Planning: A Computer-based Model', Journal of Nursing Management, 2005, 13, 363–371, Blackwell Publishing Ltd, London.
12. Ghosh Basu and George C. 'Computer-Modeling Simplifies Physician Requirement Planning in Hospitals', Journal of Health Management 2006, Vol. 8 No.1, Jan.-June, Sage Publications, Jaipur.
13. 'Human Resources Planning for Medical Specialties: A Futures Study', Ministry of Health, Oman (May 1995).
14. 'Human Resources Development Planning for Selected Categories: A Long Range Perspective', Ministry of Health, Oman (October 1993).
15. 'Human Resources Development Planning for the Nursing Category (Basic Nursing and Post-basic Specialties)' (Revised Edition), Ministry of Health, Oman. (January 2000).
16. 'Manual on Patient Referral Guidelines', Ministry of Health, Oman (Second Edition, June 2004).
17. 'Country Cooperation Strategy for WHO and Oman 2005-2009' (EM/ARD/007/E/R), World Health Organization, Regional Office for the Eastern Mediterranean, Cairo (2006).
18. 'Sultanate of Oman: Cost Effectiveness Review of the Health Sector' (Main report), The World Bank (March 2001).
19. 'Sultanate of Oman: 'Enhancing Revenues for Health Services: Issues and options', The World Bank (June 2006).
20. '7th Five-Year Health Development Plan for the Sultanate of Oman (2006-2010)', Ministry of Health.

[21.] 'Staffing Norms for Primary Health Care Institutions - A Technical Appendix to the 7th Five-Year Human Resources Development Plan', Ministry of Health, Oman (January 2006).

[22.] 'The Human Resources Development Plan (7th Five-Year Health Development Plan 2006-2010)', Ministry of Health, Oman (August 2005).

[23.] 'National health Policy Statement', Ministry of Health, Oman (November 1992)

[24.] 'Human Resources Development Planning in the Sultanate of Oman-A Profile', Ministry of health, Ministry of Health, Oman (September 2003).

[25.] 'Working Together for Health: The World Health Report 2006', WHO Geneva (April 2006).

[26.] 'Guidelines for Hospital Autonomy.' Ministry of Health, Oman (November 2002).

[27.] 'Policy Guidelines for Autonomous Hospitals' Ministry of Health, Oman (May 2003).

[28.] 'Omanization of Health Manpower: The 7th Five-Year Plan Prospects - A Tech. Appendix to the 7th Five-Year Human Resources Development Plan', Ministry of Health, Oman (June 2005).

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