EMRO

# HEALTH SYSTEM PROFILE

## YEMEN

Regional Health Systems Observatory
World Health Organization

2006

# CONTENTS

# List of Tables

# 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 shall has the potential to improve the performance of health systems in the Eastern Mediterranean Region.

Regional Director

Eastern Mediterranean Region

World Health Organization

# 1 EXECUTIVE SUMMARY

Yemen's health situation is one of the least favorable in the world. Poverty, closely spaced pregnancies, and low health awareness combine to start off the life of 21.8% of Yemeni children low birth weight (FHS 2004). Low birth weight, in turn, is one of the main contributors to Yemen's very high infant and under-five mortality rates. Other reasons are inaccessible and unaffordable health care, low educational levels of parents, and low access to water and sanitation.

Malnutrition is also high, and apparently rising, the latest figures from the FHS 2004 e wasting was 12.4 compared to 15.9% in 1996, and 12.7% in 1992 (CSO, unpublished). Maternal health and health care indicators are also dire, and compare unfavorably with those of other countries in the Middle East and North Africa region. Some telling indicators are the following:

| | |
|---|---|
| Maternal mortality rate | 365 /100,000 live births |
| Total fertility rate | 6.2 |
| Prenatal care | 45% |
| Postnatal care | 12.6% |
| Contraceptive prevalence rate | 23% |

*Source:* FHS 2004

One of the most serious health risks for Yemeni women is their extremely high fertility rate. At 6.2 (fhs2004), the total fertility rate (TFR) is one of the highest in the world. High fertility levels are a health concern because of the added stress they place on the bodies of women, and the higher mortality risk these women incur. Children born after short birth intervals also suffer higher levels of morbidity and mortality. In addition, high fertility levels are of major concern for the development of the country, because Yemen's resources, especially its water resources, cannot support a rapidly expanding population. The population growth rate is faster than the expansion rate of health facilities, while the expansion rate of educational facilities only just keeps up with population growth.

Yemen remains in the early stages of the epidemiological transition, with morbidity and mortality from communicable diseases still predominating over non-communicable diseases, and with high levels of malnutrition prevailing. The most common and serious health conditions Yemen faces are diarrhea, malnutrition, complications of pregnancy, acute respiratory infections, and malaria. AIDS is becoming increasingly prevalent, and non-communicable conditions such as cancer, heart disease and trauma are also on the rise (third five year plan MOPH&P 2005) .

Yemen adopted the PHC approach in 1978, the year of the Alma Ata Conference. To implement this approach, Yemen has utilized a traditional facility-based, three tier health delivery system of health units, health centers and hospitals. This system has been gradually expanding, and geographic coverage has risen from 45% in 1990 to 50% at 2000 And 52.2 in 2004 (real access to services, as measured by the presence of services within health facilities, rather than simply the presence of health facilities themselves, is substantially lower). Health manpower has similarly expanded, with health manpower institutes (HMI) now operating in eleven of Yemen's twenty governorates, and with private and public universities also graduating health staff in large numbers.

Adherence to this traditional health facility based model of health care, which sought the expansion and proliferation of government health facilities and health manpower as the solution to Yemen's health care needs, went largely unchallenged throughout the 1980s. Almost from its inception, however, the health system has suffered from numerous structural and service delivery problems including poor quality of services, low staff morale, lack of essential drugs, inadequate levels of running costs, low efficiency, underutilization, leakage of resources out of the system into private hands, lack of rationalization of service usage, and lack of equity in the distribution of facilities and manpower. Despite these and other problems, donors and government alike continued to support this system, attempting to improve it through capital investments, training, minor structural adjustments, and the injection of donor funds. Throughout, it was severely under funded by the government.

During this same period, Yemen's economic situation was weakening, and finally reached a point of crisis in the early 1990s, due to a series of internal and external events. Yemen's economy at that time was characterized by declining productivity, spiraling inflation, devaluation of the Yemeni rial, a large and inefficient public sector, increasing poverty, high unemployment, and a large foreign debt. It was with this dramatic economic downturn that the MoPH&P began to seriously question the potential and sustainability of its model. While in 1995, Yemen launched an economic reform program, which resulted in significant economic improvement at the macro-economic level, poverty continued to rise. In 1998, the fall in petrol prices, with consequent severe budgetary cuts in government programs, served as a reminder that the crisis was far from over, and that both citizens and the government sectors would be constrained in their spending ability for some years to come.

The consequences of the economic crisis for the government health sector, combined with the effects of rapid population growth, have been dramatic. The GDP per capita dropped from 707 dollars in19990 to 380 dollars in 2004. Rapid inflation has meant that government health workers, in common with all civil service employees, have seen a dramatic drop in their real wages. Since that time, cost of living increases, the removal of government subsidies from wheat and other basic items, and stagnating wage levels have combined to increase poverty of government health workers even more. This has exacerbated the pre-existing problem of health workers diverting patients from government facilities to their private practices, and the demanding of "under the table" payments within the public sector.

Yemen's economic crisis has resulted in significantly fewer government resources available per capita than in the 1980s, leaving a gap in social services, which has not yet been filled. Poverty and unemployment remain high, with poverty 40% in 2002 up from 19% in 1992 (PRSP). Within this environment, the ability of citizens to afford health care has been seriously compromised, and their access to the preconditions for good health i.e. education, water, sanitation, and economic well-being have been jeopardized. Given this economic environment, the MoPH judges it imperative that health sector reform addresses issues of equity and cost as its central issue.

The economic situation has placed the MoPH in a particularly difficult dilemma. In order to meet the needs of the people, and especially the poor, it must provide services at low cost. At the same time, in order to provide the services needed by the people, it must increase its resource base, which inevitably means asking citizens to pay some percentage of the cost of government services, without which it will remain crippled. However, the World Bank Public Expenditure Review for the Health Sector (World Bank, 1998) estimates that citizens already pay up to 75% of total health care costs out of their

own pockets, with government contributing only 25%. Within this environment, introducing cost sharing measures, while at the same time decreasing overall health care costs for the consumer will require skilful management.

As the system has expanded, running costs have been insufficient to support the infrastructure and staff put in place, resulting in the breakdown of the system. Health facilities are in disrepair, the supply of drugs and equipment is severely limited, and lack of funds for supervision and the carrying out of management functions has led to poor quality of care, lack of services, and inefficient use of the resources, which are available. Despite there being a sizeable number of government health facilities and health manpower in place, patients are forced to bypass the system for more expensive private health facilities, because of lack of services in these government facilities. A study found that the bypass rate was between 42 to 73% per area studied (World Bank Discussion Paper, 1998). As a result, the government health service sector has become grossly under-utilized and health staff is idle.

Since recognition that the health system, as it is presently designed, is unsustainable, government and donors alike have been introducing some changes into the system. The two most important innovations have been (a) expanding the role of the private sector through a deliberate policy of economic incentives, and (b) introducing cost sharing schemes such as fee for service and revolving drug funds.

The first of these innovations has been rational from the point of view of providing alternative curative care services for patients who can afford to pay for them. One study has shown that by 1996, between 22 and 52% of outpatient visits per area studied took place in private facilities (ibid.). However, the regulatory role of the government health sector is weak, and it has been unable to ensure that the rapidly expanding private health care sector is providing safe and good quality care. While studies of the private sector are nearly non-existent yet, anecdotal evidence shows that issues of safety and quality of care in the private sector are a major issue, and that effective regulation is imperative

Another problem with the present role of the private sector is that it appears to be geographically competitive and overlapping with, rather than complementary to, the public sector. Private practices tend to be set up on the doorstep of public facilities, rather than in areas where government services are lacking. A 1996/1997 four governorate survey found that those districts with the highest number of government facilities also contained the highest number of private facilities, while those with the lowest number of government facilities contained the least number of private facilities as well (Beatty et al, 1997). The private sector also plays only a small role in advancing the MoPH'&Ps overall health goals, providing few targeted services such as family planning, antenatal care, and health education (ibid.).

Experience with the second innovation, that of cost sharing, has shown that while cost sharing is potentially a very useful strategy for Yemen, the overall management structure of the MoPH will need to be revised before it can manage such a scheme well. As it is currently practiced in many facilities, patients are now paying for services that were previously free, with no apparent improvement in quality. There is no management system in place which helps managers of health services see the effects of their fee system on quality of care (Tibouti, 1995). Second, there is evidence that, as currently practiced, the institution of fees for services may be seriously compromising the accessibility of health services, which are already highly inaccessible to many (World Bank, Radda Barnen, UNICEF, Volume II, 1998). These and other serious issues will need to be addressed before cost sharing will lead to more accessible, higher quality, and

ultimately more affordable services. While it seems, on the face of it, a contradiction to expect cost sharing to lead to more affordable services, such an outcome is entirely possible with a well managed system, if it takes advantage of low cost generic drugs, and institutes efficiency measures. In particular, by government making available previously unavailable low cost generic drugs, and by providing these and other services at all levels of the system, thus obviating large transportation costs to more distant facilities, significant savings can be realized.

Experience with both these innovations has convinced the MoPH that piecemeal reforms and innovations are not sustainable or effective, and that a full scale reform, which takes into account the system, as a whole needs to take place. In particular, the lack of management systems within the public sector to support these innovations has led to higher costs for the consumer without any proven improvement in quality or accessibility.

# 2 SOCIO ECONOMIC GEOPOLITICAL MAPPING

After twelve years of dramatic change that included unification of north and south, the return of at least 800,000 Yemenis from the Gulf in 1991, civil war, launching of a major program of economic and administrative reform, and wide swings in foreign exchange earnings reflecting fluctuating oil prices, Yemen is by most measures better off than it was in 1990. However, with a gross national product per capita of US$380 in 2004, Yemen's 19.7 million people remain, on average, among the poorest in the world, and major constraints to sustainable employment-generating growth and good public services stand in the way of rapid improvements in the quality of life of the poor.

## 2.1 Socio-cultural Factors

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

| Indicator | 1990 | 1995 | 2000 | 2004 |
|---|---|---|---|---|
| Human Development Index: | 149 | 149 | 133 | 149 |
| Literacy Total: | 39.4 | 45.2 | 42.7 | 53% |
| Female Literacy: | 14.6 | 23.8 | 35.9 | 30.9% |
| Women % of Workforce | - | 20.08 | 10 | 11.9 |
| Primary School enrollment | 38.4 | 55.04 | 52.7 | 72 |
| % Female Primary school pupils | 22 | 37.64 | 35.9 | 45.6 |
| %Urban Population | 21 | 23.47 | 25.3 | 23.2% |

*Source:* CSO YB 1995-2000-
FHS2004

Despite the large gaps in data, it is clear from the table that Yemen has made great strides in many of the indicators of today's Millennium Development Goals (MDGs), but that it also still has far to go. About 42 percent of all households live below the poverty line . Education indicators, too, have improved but are very low - the adult literacy rate is only 53 percent, and the gross enrollment ratio for basic education is 72 percent. Quality is widely acknowledged to be poor. The gender gap is among the widest in the world, with only 45.6 percent of primary school-aged girls in school, a 15 percent higher child mortality rate for girls, longer hours of work (usually unpaid) for women, and much less freedom of female social and economic opportunity. This wide gender gap placed Yemen at 131 among 146 countries rated on the Gender Development Index for 1999. These and other factors contribute to Yemen's low ranking - 133$^{rd}$ among the 162 countries that were rated - on the 1999 Human Development Index cited in the World Human Development Report of 2001 and in 2004 it become 144.

## 2.2 Economy

**Table 2-2 Economic Indicators**

| Indicator | 1990 | 1995 | 2000 | 2004 |
|---|---|---|---|---|
| GDP per Capita: | 707 | 255<br>274 | 467<br>384* | 380<br>614** |
| GDP annual growth % | 1.97 | 10.86 | 4.4* | 3.5* |
| Unemployment % | 7.8 | 9.1 | 12** | 15.5 |
| External Debt as % of GDP | - | 152 | 52 | 47 |
| Trade deficit: | 10,551,586,000 | - | - | - |

*Source:* CSO SYBOOKS1995-2003
*20/20 INTIATION
**WHO country statistical profile 2005.

**Table 2-3 Major Imports and Exports**

| | |
|---|---|
| **Major Exports:** | Crude petroleum, cattle fish, fresh fish and un roasted coffee. |
| **Major Imports** | Refined sugar, fuel oils, flour of wheat, wheat unmilled, medicaments, gas oil, rice glazed and truck for good transport. |

*Source:* CSO 2003

### Key economic trends, policies and reforms

Yemen is a country challenged with limited economic and social development. In particular, health indicators are some of the lowest in the world, and the task of improving them is daunting, particularly in light of the difficult economic situation.

The early 1990's were marked by spiraling inflation, real devaluation, and pervasive inefficiency in the public sector, increasing poverty, growing unemployment, and mounting public debt. In 1995, the Government launched an economic reform program with support from the World Bank and the International Monetary Fund (IMF). The government revenues are 37.7 percent of GDP, over 68 percent from oil, 24 percent from taxes, and the remainder from other sources. The external debt to GDP ratio is 74.9 percent (before rescheduling) and gross official reserves account for about 4 months of imports. Another challenge to the Government's efforts to strengthen its economy came in 1998 following a dramatic drop in oil prices. The resulting 15 percent across-the-board cut in the public sector budget, further tightened scarce resources for the health sector. As a result, public spending on health is currently about 4.6 percent of GDP and 3.8 percent of total government expenditure - the lowest per capita health spending in the region. Limited public resources and poor health indicators are the catalysts from which the Ministry of Public Health (MOPH) is rethinking its strategy in partnership with the World Bank and other key donors.

Yemen's MOPH has recently launched a comprehensive sector reform initiative. The objectives of this reform program are to improve equity, quality, efficiency, effectiveness, accessibility, and the long-term sustainability of health services. Its "Health Sector Reform in the Republic of Yemen: Strategies for Reform" (December 1998) provides a

framework for this reform. The MOPH acknowledges the constraints people face in affording and accessing care as well as its own budgetary limitations. The reform is to be done in the context of the Government's broader reform strategy, which supports financial rationalization, and restructuring, decentralization, and reform of the civil service.

## 2.3 Geography and Climate

The Republic of Yemen (ROY) is located in the southern part of the Arabian Peninsula and extends about 1100 km from the Red Sea in the west to Oman in the east. The Indian Ocean is in the south and Saudi Arabia in the north. The total area is 555,000 km2, with varied topography, from the coastal plains and lowlands to highlands in the central region (with elevation reaching 3,700 meters) and plateau regions in the east and north.

**Map of Yemen**


## 2.4 Political/ Administrative Structure

### Basic political /administrative structure and any recent reforms

The Yemen government is divided into three branches :(1) the executive branch, with the president as head of state, vice president, prime Minster as head of government and a council of ministers (2) legislative branch, comprising a 301 member unicameral parliament, and (3) the judiciary branch: consisting of magistrate, appeal, and supreme courts. The legal system is based on Islamic law, but also included elements of Turkish law, English common law and local tribal law but theses do not conflict with Islam.

The country has 20 administrative and geographic units called governorates. Each governorate has several districts. The total number of districts is 284. A district consists of many villages. The total number of villages varies according to size and population of the district. The total number of villages is 68,218.

## Key political events/reforms

Faced with an unsustainable foreign debt burden and the real prospect of economic collapse, the Government in mid-1995 adopted a program of stabilization, structural adjustment, and social protection, supported by an IMF Stand-by Arrangement and, in 1996, a Bank Economic Recovery Credit was started. Its main elements were:

**Tax and expenditure reform.** Reduction of the dependence on oil revenue and rationalization of taxation. Reduction of the budget deficit through gradual reduction of inefficient subsidies and other cost-cutting, and rebalancing of expenditures towards investments and, within the recurrent budget, towards basic education and health, and operation and maintenance of past investments.

- **Price and monetary reform.** Decontrol of most prices, devaluation and floating of the exchange rate, unification of the dual exchange rate system, and shift in deficit financing from bank borrowing to auction of treasury bills.
- **Financial reform.** Improvement of the legal framework for loan recovery, prudential regulation, and competition in banking.
- **Trade reform.** Elimination of most import bans and licensing (with minor exceptions) and rationalization of tariffs.
- **Privatization.** Privatization of enterprises accounting for 70% of public enterprise employment by 2000, including some of the largest ones, and involvement of foreign investors in the process.
- **Poverty alleviation.** Improved targeting of subsidies, greatly increased expenditures on basic education and health (up from 4.6% of GDP in 1996 to 9.7% in 1998), expansion of public works, and establishment of substantial cash transfer, community development, and micro enterprise programs for the poor.
- **Administrative reform.** Reduction of surplus employment in the civil service and acceleration of civil service reform efforts, with gradual decentralization of public administration.

This Economic Reform Program, revised periodically as political, administrative and technical factors permitted, squarely addressed Yemen's immediate crisis, as well as many of the factors underlying poverty noted above. Its immediate impact was positive, strengthened by Paris Club rescheduling in 1996 and continued strong financial support by the IMF and the Bank. It has encountered delays, however, in such areas as financial reform, privatization and administrative reform, reflecting not so much lack of will as weakness in implementation capacity Health sector reform in Yemen, as other developing countries has embraced health sector reform policy as well as other series of reforms in other different public sectors to improve the status of the population.

# 3 HEALTH STATUS AND DEMOGRAPHICS

The challenge of improving the quality of life in Yemen can be understood by reference to basic indicators. Basic health indicators - the infant mortality rate of 76 per 1,000, the under-five mortality rate of 101.9 per 1,000, and life expectancy of 62.9 years - are much improved since 1990 but still not acceptable. Malnutrition affects almost half of children under five. About one quarter of newborns is of low birth weigh raising their chance for catching diseases. Maternal mortality rate still one of the highest in the world and this reflecting the low quantity and quality of maternal services. While recent data on causes of morbidity is not available. While most of the leading causes still remain nearly the same, the percentages may vary but complications of pregnancy, childbirth and puerperium still out number other group of morbidities. During the last 10 years percentage of accidents has increased and also the chronic and cardio-vascular diseases.

## 3.1 Health Status Indicators

**Table 3-1 Indicators of Health status**

| Indicator | 1990 | 1995 | 2000 | 2004 |
|---|---|---|---|---|
| Life Expectancy at Birth: | 46 | 57 | 59 | 63 |
| HALE: | - | - | 49.1 | - |
| Infant Mortality Rate: | 90<br>130 | 91<br>81 | 75 | 74 |
| Probability of dying before 5th birthday/1000: | 123 | 121 | 105 | 102 |
| Maternal Mortality Rate: | 1000 | 1000 | 1000<br>351* | 365 |
| Percent Normal birth weight babies: | 70 | 74 | 91 | 78 |
| Prevalence of stunting/wasting: | 56 | - | 42 | 53-12 |

*Source:* CSO 1995-2000-2003
PRSP*

**Table 3-2 Indicators of Health status by Gender and by urban rural**

| Indicator | Urban | Rural | Male | Female |
|---|---|---|---|---|
| Life Expectancy at Birth: | 62 | 59 | 62 | 64 |
| HALE: | - | - | 49 | 49 |
| Infant Mortality Rate: | 71 | 86 | 89 | 77 |
| Probability of dying before 5th birthday/1000: | 87 | 118 | 114 | 108 |
| Maternal Mortality Rate: | - | - | - | 365 |
| Percent Normal birth weight babies: | - | - | - | - |
| Prevalence of stunting: | 44 | 55% | 53% | 53% |
| /wasting | 10% | 13% | 13% | 11% |

*Source:* CSO 1995-2000-2003

FHS2004

**Table 3-3 Top 10 causes of Mortality/Morbidity**

| Rank | Mortality | Morbidity |
|---|---|---|
| 1 | Infectious and Parasitic diseases including diarrhea | Diarrheal diseases |
| 2 | Diseases of the Respiratory System | Malnutrition |
| 3 | Other Diseases of the Digestive System | Complication of pregnancy and delivery |
| 4 | Complications of Pregnancy, child birth and puerperium | Acute respiratory disease. |
| 5 | Injuries and poisoning | Malaria |
| 6 | Diseases of the circulatory system | Bilhasiasis |
| 7 | Others | T.B |
| 8 | - | Accidents |
| 9 | - | HBV diseases |
| 10 | - | AIDS, Leprosy |

*Source:* Third Five-Year Plan 2005
Note: there is no separation between mortality and morbidity causes in the third 5YP. So the mortality causes were taken from the Second 5YP.

## 3.2 Demography

### Demographic patterns and trends

Yemen is at an early stage of the epidemiological transition, with morbidity and mortality from communicable diseases dominating that from non-communicable diseases. these indicators point to difficulty in balancing the urgent need for improved access to basic health services with the rising demand for costly specialized services for non communicable diseases and injuries. Population pyramid is with a wide base and about half of the population is under 15years old adding to the burden on the health sector for their special diseases management and protective programs.

Population growth rate, at 3.02 percent per year (is among the highest in the world, family planning activities are minimal, and the use of modern contraceptives is particularly low at 13 percent. The situation is compounded by the wide regional disparities and the significant differences between urban and rural conditions. For example, the TFR in rural areas is 23% higher than the overall total for the country and rural children have a 22% greater chance of dying in their first five years than urban children.

**Table 3-4 Demographic indicators**

| Indicator | 1990 | 1995 | 2000 | 2004 |
|---|---|---|---|---|
| Crude Birth Rate: | 54.4 | 65.36 | 46.9 | 39.2 |
| Crude Death Rate: | 20.8 | 11.35 | 11.9 | 11.38 |
| Population Growth Rate: | 3.1 | 3.7 | 3.5 | 3.02 |
| Dependency Ratio: | - | 216.5 | 208.4 | 108.4 |
| % Population <15 years | 52 | 50.28 | 46.5 | 46.5 |
| Total Fertility Rate: | 8.0 | 7.5 | 5.8 | 6.2 |

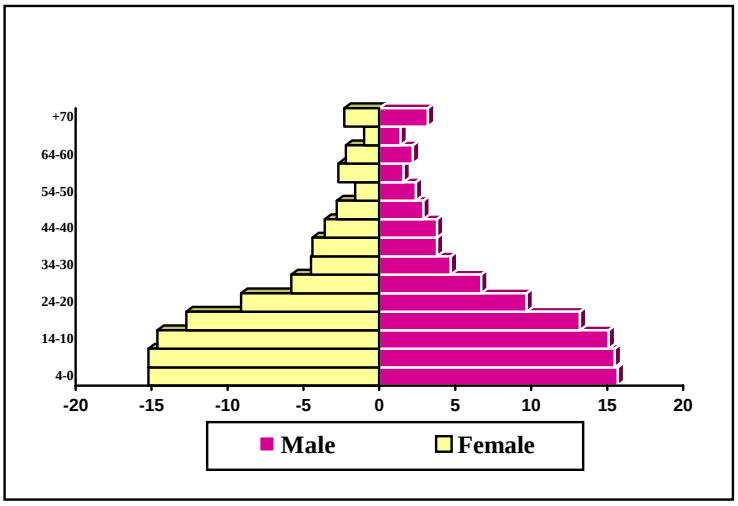
*Source:* CSO1995-2000-2003
FHS2004

**Table 3-5 Demographic indicators by Gender and Urban rural**

| | Urban | Rural | Male | Female |
|---|---|---|---|---|
| Crude Birth Rate: | 35.2 | 40.6 | - | - |
| Crude Death Rate: | 10.0* | 12.6* | 11.9* | 10.3* |
| Population Growth Rate: | - | - | - | - |
| Dependency Ratio: | - | - | - | - |
| % Population <15 years | 41.5 | 46.9 | 46.3 | 45 |
| Total Fertility Rate: | 4.5 | 6.7 | - | - |

*Source:* CSO-2000
*The information is for the year 2000.

**Population Pyramid for Yemen**



# 4 HEALTH SYSTEM ORGANIZATION

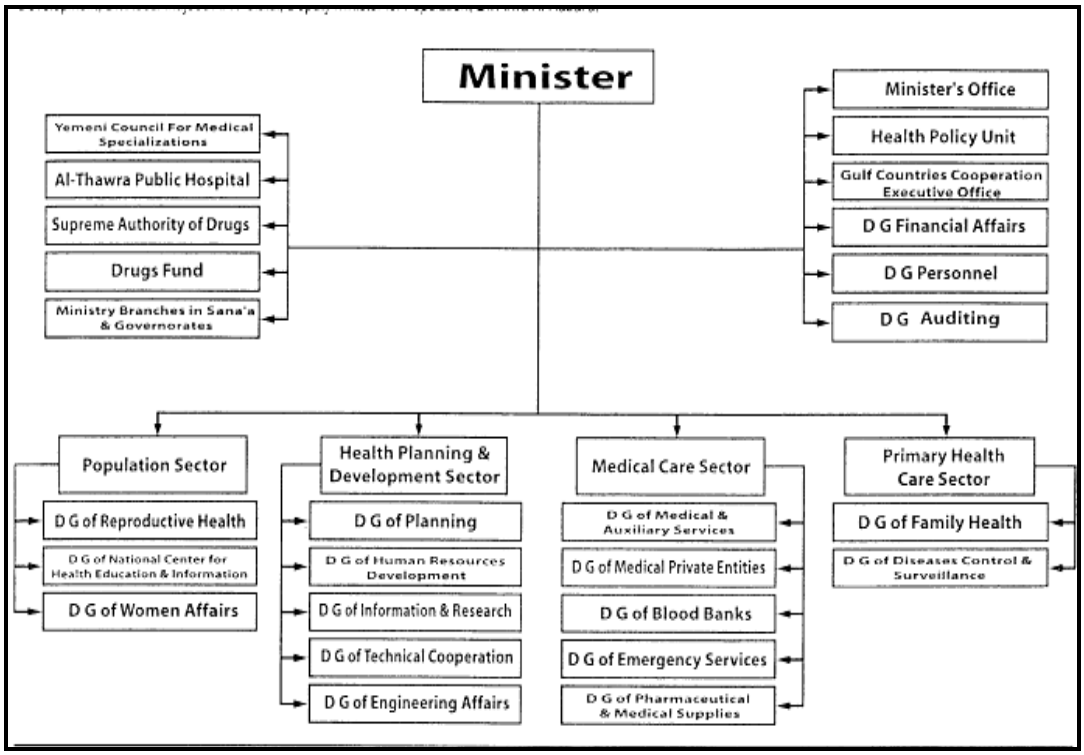
## 4.1 Brief History of the Health Care System

The Yemen Health System dates back to the last quarter of the 19th century, the period during which Britain entered the southern part of the country. It also dates back to the second half of the 20th century, thanks to the two revolutions of September 1962 in the Northern part and October 1963 in the Southern part of the country at that time. After Yemen Unification in 1990, the health system had also been unified, as there was no big difference between the two systems except that the health system in the southern part was defective while it was viable in the Northern part. The role of the private sector has been enhanced in the eastern and southern provinces after the unification.

Generally speaking, one can say that the Yemen Health system represents about 95% of the total health care and services provided to the citizen with a government finance to its prevention, medical and rehabilitation activities (second five year plan). Its structure is horizontally based on the health centers and units at the first touchline. Vertically, the health system depends on the prevention health programs and projects against epidemic and non-epidemic diseases .We find no established experiences between the two parts of the horizontal and vertical parts of health system concerning integration between them or even consistency at minimum level.

## 4.2 Public Health Care System

### Organizational structure of public system



### Key organizational changes over last 5 years in the public system, and consequences

- The new organogram implementation with the development of the new sector of the reproductive health and gender.
- Decentralization as a principle to give term of references to technical, managerial and financial authorities for different health levels.
- Health districts system: depending on the health system in districts. Self-dependence in management of health care services especially the primary health care. Using of the local resources, training of the workers, executing the general programs and developing of the infrastructure.
- Cost sharing and using it for the development of the essential infrastructures of the health institutions.

### Planned organizational reforms in the public system

- Primary health care approach and commitment to it.
- Community participation in managing the health services.
- Interaction cooperation between the sectors
- Independence of the hospitals technically, financially and managerially.
- Customer satisfaction (patient satisfaction)
- Coordination of donors' activities to sector wide approach.
- Focusing on quality of services

## 4.3 Private Health Care System

### Modern, for-profit

The role of the private sector increasingly grows. However, this grow is not as an investment or to provide unique specialized services. It concentrated in the capital city and main cities of the governorates. Future trends of the ministry of health and population are as follow: the private sector can be a partner in the development. It can help in widen the coverage of providing services where the public does not exist on contractual basis. The size of this sector indicate the availability of 85 hospitals, 534 polyclinics, 38 health centers, 70 laboratories, 20 x-ray clinics, 1249 doctors clinics, 615 foreign doctors and 309 foreign technicians. Most of these numbers are in the capital city (Alamana). There is evidence of an expanding role for the private for-the –profit health sector in the delivery of health services. Although the exact number and scope of their activities are not yet known, it is likely that the coordination of investment and activities between the public and the private sectors will become an important issue in the coming years. Mostly the owners of the private sector are employee in the MOPH whom want to invest their money or qualification in health services provision.

### Modern, not-for-profit

These services are provided by the non-governmental organizations local or international, religious or social. There is tow local NGOs having wide health activities all over the country the first is the Yemen's Charity society, which was launched and licensed in 1990. It had multiple agreements with the ministry of health, social fund for development, international organizations, WB, and international NGOs for financing the health projects.

Their health facilities covers 13 out of 20 governorates and they have 11,500 employees serving population of 786,959. They have 5 hospitals (2 are specialized), 11 health centers, 3 dispensaries, and 1 health unit. All these facilities are equipped with the latest technology. They also have outreach activities and school health provision. (Islah social charity society report 2005). The second is the society of family care, which provides all the reproductive health services and mainly works in sanaa.

## Traditional

Traditional medicine still plays an important role in Yemen. In many rural areas, it is the only medical assistance available to people, but it also competes with modern public and private health care which is either more expensive or regarded with suspicion. Medical practices are rooted in the Greco-Arabic tradition and have physical as well a spiritual dimension. Illnesses are believed to be caused by personal actions, environmental factors or evil spirits, and require different expertise and treatment. Some of the more common procedures are cupping to draw off blood, cautery, bone setting and minor surgical techniques. In addition, local plant and animal products, some minerals and changes in dietary habits are used to treat ailments. Local birth attendants assist with deliveries and provide post-natal care. There are many aspects of traditional health care which are beneficial to individuals and the community, and which could complement modern medical practice. Traditional cures are often effective although they fail with most of the endemic diseases. The concept of preventive health care is not alien to traditional practices and could be strengthened through further health education. Traditional birth attendants could benefit from additional training. The issue, therefore, is not to replace traditional medicine but to improve its quality and impact.

There is no information about this type of medication in spite of its wide spread use. The research department in MOPH conducted one descriptive study, but they excluded the spiritual healers, readers of Quran, users of cauterization and makers of hijab. In this study the main tow types of healers were: herbal medication 84% and skeletal system healers 10%. 84% of their clients were of low socio-economic status, 51% of them were illiterate and 12.3 were highly educated. 58% of the healers were illiterate and had no qualification, only 5.5% had university certification or more. They had a long list of the diseases they heal including AIDS. There was no formal recognition or accreditation system or structure except for two of them who had certificates from the MOPH and sanaa university for their good results in herbal medications. There is no formal training, or relation of any category to the public or private health system.

## Public/private interactions (Institutional)

There is a private sector department with its policy and system but in reality it is only in papers and needs to be activated. There is a little interaction between the MOPH and the local NGO s especially the islah social charity society, which implement some health projects with the MOPH. The interaction was based on competition with wide lack of coordination to improve the coverage and accessibility of health care services. The services were of low standards and there was poor management.

## Public/private interactions (Individual)

Nearly all the doctors in the public sector are doing private practice to make a living, as their salaries are too small to have a livelihood and this is usually in the afternoon, some of them works in the morning, which is informal. About 615 doctors and 309 technicians are foreigners working in the private sector. Rests are all reported to be Yemenis.

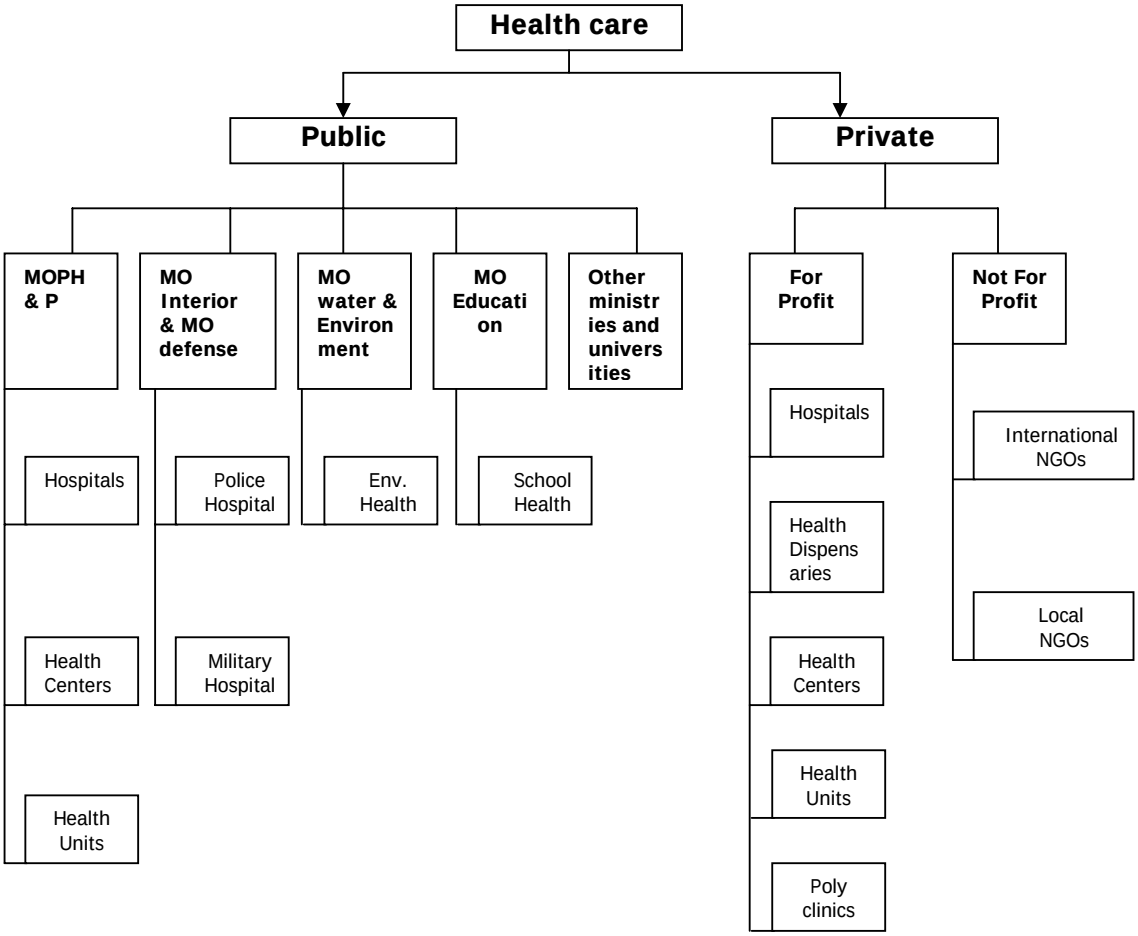
Doctors working in the public sector largely run clinics. Yemenis staff hospitals, health centers, and laboratories in the private sector. This leads to conflict of interest.

## Planned changes to private sector organization

- Encouraging the responsible private sector for the investment in the health sector
- Enactment of private health institutions laws
- Practicing laws
- Higher medical council laws
- Health map of private health facilities
- Plan for inventory for private facilities
- Planning for evaluation
- Restriction of traditional places without legal justifications
- Job opportunities for the local staff and get the priority

## 4.4 Overall Health Care System

### Organization of health care structures




### Current set up of the Public Sector Health Services:

The public sector health services consist of the following:

- **Rural Areas**:
  1. **Village Level:** Community Based Health Services include trained TBAs, Community Educators (Murshadaat) and Community Based Distributors of contraceptives.
  2. **Health Unit:** These are of two types: (i) fixed health units and (ii) temporary health units; and
  3. **Health Centers:** All health centers under the Second Five Year Plan will be without beds.

- **Urban Areas:**

**(a) Primary Health Care:**

1. Health Units;
2. Health Centers; and
3. Outpatients clinics and polyclinics

**(b) Referral Care:**

1. District hospitals; and
2. Governorate Hospitals.

The structure of the public sector health services is presented in the table 3.

**Table 3: Public Sector Health Care Delivery Network**

| Type of Care | Geographical Area / Population | Type of Facility |
|---|---|---|
| Primary Health Care | Hamlet | Community supported Female health worker – Murshada |
| | A group of hamlets (Population: up to 1000) | Community shared Temporary Health Unit |
| | A cluster of villages (Population up to 5000) | Fixed Health Unit |
| | Population up to 10,000 | Health Centre |
| Secondary Care | Main Town of the District | District Hospital (40-60 beds with 4 bas specialties and 78-82 Technical Staff members) |
| | Capital of Governorate | Governorate Hospital (Up to 200 beds and up to 200 Technical Staff members) |
| Tertiary Care | Sana'a and Aden | Specialized and University Hospitals witl all Specialties (up to 500 beds with 410 technical staff members) |

The health care system in Yemen consists of a large public sector along with a sizable private sector. Public health care is organized in three levels: PHC supported by secondary and tertiary referral care. PHC focuses on preventive and promotive health programs (immunization, MCH and family planning, health education, etc.) and provides first level curative care. It starts at the village level where PHC units are run by paramedical staff; the units are backed up by PHC centers, most of which are managed by one physician and have laboratory and X-ray facilities. Patients who cannot be properly cared for at the PHC level are referred to rural, district or governorate hospitals (secondary care) for further diagnostic and curative treatment. Some of these hospitals also provide support for national or regional immunization and disease control programs. Finally, tertiary hospitals provide specialized care and serve as teaching hospitals for the medical faculties of the country's two universities.

Private health care is essentially curative and is available mainly in and around urban areas. Physicians practice either individually or in groups. There are also a number of

private clinics, which are well equipped and may have up to 50 beds. Private health care is strictly commercial and charges substantial fees to its patients.

The Ministry of Public Health (NOPH) has overall responsibility for the health sector. Its functions have been spelled out in a President Decree (No. 114, July 1992) and require the Ministry to:

- Determine health policies based on PHC and aiming to provide health care for all people;
- Develop health services at all level. And In all regions of the country;
- Prepare and issue health legislation, regulations and instructions;
- Develop and train health personnel; and Organize and enhance participation of communities and other sectors in the development of health services.
- Other functions include support for health research, establishing technical standards for health professionals and facilities, and coordinating environmental health programs.

## Description of current overall structure

The MOPH is the organization responsible for the health sector in Yemen. However, there are a number of public organizations involved in the financing, planning, regulation, management, and provision of health services in Yemen. These include the MOF, MOPD, MOCS, the two autonomous hospitals, the Health Management Institutes, the military health services, and the public drug organizations. The Minister of Health is assisted by three Undersecretaries for Planning and Development, Health Care Services, and Finance and Administration. There are also 20 Directors-General who are heading the health directorates in the governorates. There is little information known about the organization in the private sector and NGOs. The organizational/institutional framework of the health sector may be characterized as being highly centralized, poorly coordinated, and very weak. Further institutional analysis will be required for the identifying appropriate strategies for organizational development and capacity building.

Other ministries like MOF, MOE and other organizations offer private health insurance to their employee either inside the country (with a private hospital or doctors) or out side the country (like in Jordan). The critical cases that cannot be treated here are sent for overseas treatment.

# 5 GOVERNANCE/OVERSIGHT

## 5.1 Process of Policy, Planning and management

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

Health Policy is based on the Health Sector's Reform 2000, Health Development Conference 1994, governorates' programs, consultant's reports, and the Second Five Year Plan 2001-2005. The strategies of the Policy include:

1. The fight against common and endemic diseases: To do this, good PHC, inter-sectoral collaboration, implementing District Health System, community participation, increasing the income of households through micro credits and Basic developmental Needs approach are considered essential. The priority will be on immunization of six childhood diseases, Hepatitis B, diarrhoeal diseases control through oral re-hydration therapy, acute respiratory infections, malaria, tuberculosis, HIV/AIDS, environmental protection, surveillance and information system, early detection, school health, and modification in the training contents.
2. Combating malnutrition: This will include promoting breast feeding and introducing micro-nutrients Vitamin A, iron, iodine). Educating masses would be the main component of the program along with income raising activities through Basic developmental Needs approach.
3. Reduction of high risks threatening mothers and child health: By improving antenatal care, protection against tetanus, providing food and micro-nutrient supplements, safe deliveries, emergency obstetrics care, postpartum care, family planning, care of the newborns with low birth weight, immunization of children, growth monitoring, providing nutrients and care of common child hood diseases by introducing Integrated Management of Child hood illnesses (IMCI). For women the package of reproductive health had been introduced.
4. Strengthening curative and support services: This would be done especially at the PHC and district hospitals. A referral system will be introduced.
5. Environmental Health: This will be carried out to be effective and efficient PHC strategy.

### Policies and strategies for Development of the Health System:

1. Enhancement of political commitment;
2. Health Financing;
3. Development of Human resources for Health;
4. Equity of Distribution of Resources;
5. Community involvement;
6. Administrative and Management Development;
7. National Health Information System (HIS); and
8. Legislation

The Poverty Reduction Strategy Paper (PRSP), completed in May, 2002, and discussed by the Boards of the IMF and the Bank on July 31 and August 1, 2002, respectively, is derived from the SFYP, focusing on analysis of poverty and antipoverty policies and programs. It, too, was the product of a Yemeni team that came from all sectors of the Government and from civil society organizations. During the early stages of PRSP formulation in July, 2001, a major workshop in Sana'a brought together a broad spectrum of Yemenis and representatives of the Bank, the Fund, and the donor community to discuss best practice examples and to develop, in separate smaller groups, recommendations for several specific areas (e.g., private sector development, public sector management, etc.). Women and academicians were especially active in the workshop. Later, early drafts of the PRSP were discussed in a series of town hall-type meetings in various cities throughout the country. The PRSP is a good strategy statement, especially strong on analysis, but weaker in priority setting.

The PRSP identifies **four major challenges***:*

1. High population growth, its distribution away from adequate natural resources (especially water), the related problems of urbanization and poor labor market demand, limited prospects for women, and the rapid rise of child labor;
2. Water shortages exacerbated by population growth and poor waste treatment, and the related negative effects on agriculture;
3. Development of human resources, including improvement of health outcomes, better education standards and vocational training, including more appropriate curricula at all levels, and enhanced capabilities and opportunities for women; and
4. Poor institutional capacity of the State, including overstaffing, corruption, and the weak judiciary.

The PRSP sets out **three basic goals**, defines specific, monitorable targets within each goal, and compares these to the relevant MDGs. The goals include:

1. Achieving economic growth, creation of job opportunities and expansion of the economic opportunities for the poor by remedying the structural causes of poverty, focusing on the prevention of poverty and providing sustainable means of livelihood;
2. Enhancing the capacities of the poor, increasing their assets and the returns from assets, towards more equity by improving the social, productive and economic conditions of the poor and near-poor; and
3. Reducing the suffering and vulnerability of the poor by improving the social safety net.

To achieve these goals, the PRSP proposes **four main 'pillars" of interventions**, all of them underpinned by improved governance as the essential precondition for success:

1. Achieving economic growth that is stable, diversified, and reduces income disparities.
2. Developing human resources, emphasizing population programs, improved health conditions, and education and training.
3. Improving infrastructure, particularly water and drainage, roads, and electricity.
4. Granting social protection, through social safety net and pension programs.

## Formal policy and planning structures, and scope of responsibilities

The Ministry of Public Health offer its third Five Years Plan of Health Development (2005-2010) adopting Decentralized Planning Approach which required vast efforts by health cadres on the level of districts and provinces and the central level (the general directorate of planning) in addition to the participation of many experiences and skills from different Governmental concerned bodies and also from local and international organizations.

This plan represents the trend adopted by the Ministry of Public Health during the five years. It is an integral part of the comprehensive economic and social development plan of the Government and based on future Policies and Strategies of Health Development as the most important outcomes of:

- The second five year plan.
- The Strategy of Health Sector Reform in 2000
- The poverty reduction stratigy .

The Plan has focused on putting an end to most of health problems suffered by the Yemen society and marking them as priorities on the top of which are: reducing the extreme risks threatening the child and woman health, fighting and controlling common and epidemic maladies. This can be attained through applying the approach of primary health care on different levels with convenient means, as this approach is the best strategy towards improving the health condition of society. The plan has also stressed on consolidating the treatment services and their supporting activities through: Developing health administration, enhancing health information system, upgrading human resources in the field of health locally and internationally and also developing and expanding the system of medical supply and provision.

The plan hasn't neglected the supporting and supplementary activities of health services like, Programs of woman development, poverty abatement projects, viable contribution in environment preservation and developing and expanding the scope of international cooperation based on partnership concept in effecting the required health development with the help of granters and supporters through empowering programs of international health and evaluating and guiding the private sector in the process of health development and adopting decentralized policy in planning and implantation and reinforcing the role and participation of community in health sector.

## Analysis of plans

The MOF did not give any clear vision of their ceiling for health funding during the five-year plan preparation so the new plan will reflect what activities the MOPH intended to do but the real plan will depend on how much of the needed fund the MOF will give.

The non-implemented activities will wait till the next year budget. The first Five Year Plan 1996-2000 was prepared following the Health Development Policies and Strategies (HDPS) for 1990-2000. The HDPS was based on the fundamental right of all citizens to attain a full range of health care and services, in the most equitable fashion, without any bias to location or any other factor. HDPS reaffirmed the commitment by Yemeni Government to health related international and regional conventions. HDPS recognized that improved health of the individual, family and the society is central to achieve overall socio-economic development. HDPS sought support and effective participation of various government institutions, communities, voluntary agencies, the private sector, and donors (multilateral and bilateral).

HDPS reaffirmed the need for managerial process for national health development including a proper management information system and use of available information. HDPS recognized the importance of continuous monitoring, and as necessary, the need for reviewing, modifying and accelerating implementation of the strategy for achieving health for all by the year 2000 based on Primary Health Care. Special attention was to be given to maternal and child health, adequate nutrition, rapid expansion of immunization, oral re-hydration therapy, expanding coverage of potable water supply, basic sanitation, health education and essential drugs. The strategy is based on the decentralization of health services delivery system.

The goals of the HDPS are as follows:

1. Significant reduction of communicable and parasitic diseases;
2. Improving the nutritional status of the vulnerable groups;
3. Reduction of hazards associated with early, repeated and closely spaced pregnancies;
4. Improvement of diagnostic, treatment facilities and emergency medical care;
5. Control of environmental factors that continue to the spread of diseases; and
6. Intensive health education to promote healthy lifestyles.

On the basis of the impact indicators, the targets of 50% coverage of the infants, life expectancy of 60 years at birth; low birth weight babies less than 20% have been achieved. There has been some reduction in mortality from the acute respiratory and diarrhoeal diseases but still a long way from the planned targets. While there has been sizeable reduction in infant and under 5 child mortality, the desired targets have not been met. Malnutrition targets have also not been met; the situation is reported to have deteriorated. Only vitamin A supplementation has universal coverage of child population through National Immunization Days. Vaccination target of 90 percent children immunized has also not been achieved, while the progress has been substantial from the benchmark of 28%. Service statistics data, which is usually on the higher side than actual, state that 80% of the infants are fully immunized. Immunization of women in the reproductive age has progressed but is still half way of the target. Contraceptive prevalence rate has increased to 21% but remains very low for modern methods (10%).

## Key legal and other regulatory instruments and bodies

The overseeing body for the MOPH is the health department in the central organization for monitoring and accountability and a health committee in the parliament. In the MOPH there is a new department for monitoring and accountability at which a regular follow up and evaluation should be done for the whole activities of the ministry. Accreditation and quality assurance of the teaching institution is the responsibility of the higher board of education. There is no legal control for the human resources, hospitals, and private clinics because all the related laws are not activated. The private sector also did not have any overseeing regulatory system yet.

For the time being, there is no legal obligation for continuing education, nor periodic re-examination as a condition of continuing registration or licensing of public health personnel and training institutions in terms of quality and appropriateness. Reportedly, only foreign medical staff and to some extent private health staff in Yemen have to undergo registration and licensing. This process is however at risk of being jeopardized by the low level of accountability.

## 5.2 Decentralization: Key characteristics of principal types

Decentralization is the key reform upon which all other aspects of the reform depend. The rationale for decentralization is well known i.e. the greater efficiency and effectiveness to be gained by managers at the district level in planning and implementing health services for their populations. In addition, other key aspects of the reform, such as community participation in management, cost recovery, and the setting up of effective motivational systems cannot be implemented if the overall system remains centralized, as it is now. It also has important democratic and psychological consequences for those who participate in such systems, creating greater motivation and commitment to the system. Through district and sub district level participatory management, health workers had the satisfaction of understanding their health care situation through their own analysis, they are able to act quickly and with effectiveness, and they had community support, all of which create a feeling of ownership and commitment.

Decentralization of the health sector is occurring within the context of overall decentralization of government in Yemen, and was being designed to take advantage of new local administrative structures. Currently, general administrative decentralization had being planned, with the Law for Local Administration. This law is designed to strengthen local government, and to decentralize a number of governance functions to the level of the district. Key provisions of this law were elections of local officials at district and lower levels, raising of revenues locally, and local management of development projects. This created more control of health and other services by local authorities, and supported decentralization of the technical sectors down to the level of the district.

The type of health system decentralization in Yemen is primarily deconcentration to the level of the district i.e. the transfer of some key management and financial functions to the district level. Limited budgetary decentralization from the national to the governorate level began in 1995, with governorate health offices being given partial control over chapters one (salaries and wages), two (operational costs), and five (investment costs for building and medical equipment). In the case of hospital autonomy, a more radical delegation type of decentralization also took place i.e. organizations outside the regular bureaucratic structure of the MoPH delegated some of the service provision responsibilities which have been totally publicly controlled. Autonomy of basic health facilities will follow based on the experience with hospital autonomy.

The borders of a health district followed, as much as possible, the same borders as the present administrative districts in Yemen. However, in cases where districts are exceptionally small or large, and where road systems and geographic features make it practical, the present administrative districts split or combined, in order that each health district serve a population of approximately 100,000.

### Within the MOH:

Within the district, district health systems carries the primary responsibility for health service planning and provision within their districts, including private and NGO health services. At the district level, the administrative structures set up reflect a strong role for both the community and the district health office. The district level administrative structure includes:

District Health Council (DHC), composed of community members, sectoral, and government health staff. The local district health council will be comprised of both appointed and elected members in addition to sectoral directors for health, education,

water, agriculture etc. The Council will have a policy, planning and coordinating role for the district.

District Hospital Board composed of key representatives from the health facility committees in the district, the director of the hospital, and other key district level officials. The Board will have a planning, budgetary and regulatory role in the management of the hospital.

District Health Management Team (DHMT), composed of key district health staff. Its role included the following:

- ensuring local implementation of national strategies
- local health service planning
- operational management of staff and facilities other than autonomous units
- technical support, training and supervision
- data collection and information management
- health education
- collaboration with other sectors
- promoting community participation and mobilization
- ensuring the functioning of referral systems and appropriate access to health services
- Coordination with and regulation of private and NGO facilities.

Below the level of the district, a number of structures such as health facility teams and health facility committees set up to ensure community participation and team management.

## State or local governments

The governorate health office ceased taking direct responsibility for the operational management of health services. It has a managerial role, which includes the following components:

- Allocation of resources to district health facilities
  - within national guidelines
  - according to strategic plans of districts
  - with service agreements or contracts with providers of health services
- Human resource planning
  - ensuring availability of professional staff, based on location and need
  - training plans based on needs assessment
- Monitoring and regulation
  - activity and outcome data
  - professional regulation
  - oversight of cost sharing schemes
  - contracts and licenses
- Monitoring of referral system within the governorate
  - according to national guidelines

## Greater public hospital autonomy

Hospital autonomy refers to a management system for hospitals whereby the hospital is awarded a lump sum budget by the MoPH in return for agreed levels and standards of service. This type of hospital management creates the potential for more flexible and efficient management, which can respond to the needs of the local situation. The hospital is run by a local management board and trained managers, who make decisions about staffing and controlling expenditures. They have full power to hire and fire, and to reward their staff. Freedom from government civil service regulations and the freedom to use their budget flexibly give these hospitals the possibility of greater efficiency and effectiveness.

The main features of an autonomous public hospital are the following:

- It is established by law as a statutory body.
- It has a Board of Governors or Trustees who are non-executives and appointed by the Minister with recommendations from local communities for district hospitals.
- The Board appoints a Chief Executive who is accountable solely to the Board.
- There is an Executive Management Team whose core members should be a doctor, a nurse, and a finance director.
- The Board is accountable to the Minister of Public Health for the performance, financial and otherwise, of the hospital.
- All staff is appointed by the Board on terms and conditions determined by the Board. The Board decides on the numbers and skill mix, and has freedom to hire and fire staff within the relevant employment legislation.
- The Board receives funding subject to written service agreements, which set out the volume, range and quality of services to be delivered.
- The Board may raise its own income, which it may retain to improve services e.g. from private beds.
- The Board uses commercial accounting standards and practices but remains subject to government audit.
- The Board adopts Standing Orders and Standing Financial Instructions that regulate its conduct of meetings and its business and financial affairs.

There are tow autonomous hospitals, Al-Thawrah hospital and al-Kuwait hospital.

## Main problems and benefits to date:

One of the persistent difficulties faced by the efforts of the MoPHP to implement a reform strategy has been the lack of support from other government agencies, particularly the Ministry of Finance. Moreover, the process of transitioning from a highly centralized political and administrative structure to a decentralized governmental and political one has created new problems for the health sector. For example, the creation of many Local Authorities under decentralization has made it more difficult for the MoPH&P to control past excesses in investments in health infrastructure. While it may now decide to restrain its own infrastructure investment spending, on which it does not itself seem to be consistent, decentralization has given governorates and districts independently authorities to devote resources to building new health centers and hospitals without prior approval from the MoPH&P, and without adhering to MoPH&P design and construction standards.

The rationale behind establishing a system of hospital autonomy in Yemen has to do with the poor state that hospitals are in Yemen. Studies by the World Bank and expert

consultants have highlighted the weaknesses. Hospitals and health centers in urban areas are overstaffed, yet there are shortages of doctors and other health workers in rural areas, and not enough money for supplies, drugs, equipment and maintenance. The physical conditions within hospitals and health centers fall below levels of acceptability e.g. it is common to find broken water and sewerage systems. A recent report on diagnostic services indicated that not a single public laboratory in Yemen meets basic international standards (Browning, 1997). Given the current conditions in hospitals, it is almost impossible to practice good medicine and to provide modern standards of care.

Some of these problems are caused by lack of funding, but perhaps fifty percent of what little funding is available is lost through theft, wastage and inefficiency attributable to poor management. Without a radical change in management, this state of affairs has little chance of improving. The central "command" system of health service management, which currently operates in Yemen, has become discredited in other countries for the poor quality of results and resistance to change.

Hospital autonomy is in line with the MOPH&P's overall reform policy, which encourages decentralized management and the meeting of targets, rather than being output oriented. It also is consistent with the MOPH&P's new role, which concentrates on strategic planning i.e. policy development, monitoring, and quality assurance, and steps back from direct service provision. It goes one step further than other aspects of the reform in that it separates the funding from the delivery of services. The success of the autonomy model with respect to hospitals will point the way for using this model for other aspects of service delivery e.g. district health management. Hospital autonomy started in stages, beginning with three pilot hospitals at district, governorate and national levels.

### Integration of Services

Vertical health programs have a narrow focus and their staffs are trained to perform few distinct tasks. They are usually well funded and enjoy the commitment of government authorities as well as the support of multi- or bilateral donors. The rate of success therefore is generally high, although these programs are difficult to sustain over a longer period. A recent example is the Expanded Program for Immunization sponsored by UNICEF, which from 1988 to 1990 achieved coverage of up to 80 percent for children under five in the northern governorates. Since then, immunization rates for infants have declined.

To enhance sustainability and also reduce costs, MOPH pursues a policy of integrating the functions of vertical programs such as immunization of infants or eradication of malaria into the regular PHC system. This requires availability of adequate supplies and equipment at PHC facilities, and multi-discipline training of health workers. Depending on local and regional conditions such as the incidence of malaria or schistosomiasis, some functions can be developed selectively. But staff working in PHC units and centers should at least be able to immunize infants and protect mothers against tetanus.

## 5.3 Health Information Systems

Health system in the Republic of Yemen lacks, despite the efforts of developing it, to appropriate indications to measure the size of progress in the total health activities in the country. Most of health and establishment programs complain from a lack in the base of data which could be presented to administrational bodies to help in taking the sound

resolution of which this led to untrustworthy to the total statistic data available about the health sector to face the difficulty of distribution of human health resources. It is possible to make clear the problems that face health sector in the statistic aspect and information system as follows:

- Difference of patterns used for all data.
- Non-system and no-compliance of sending statistic reports in due time.
- Pluralism of health information sources.
- Rareness of qualified cadres in statistics field.
- Non-availability of accurate comprehensive statistics of unified concepts.
- Non-consideration of the statistics system as part of administrational system.
- Non-credit of financial allocations for the work of statistics.
- Non-interest of statistics cadres and non-stabilization of it on all levels.
- Non-existence of legislation's to interact the role of the system of information.
- Non-employment of the computer and health programs of health utilities to generalize it on the central level, Governorates, districts and hospitals.
- Refusal of using the computer and the appropriate programs in the financial system, personnel affairs and dependence on working by hand and intensified manpower.
- Activities Of The Infrastructure:

**Health Factor:**

- Gathering the vital realities of the data (births, death's).
- Registration of the patients examined and treated.
- Registration of protection activities data.
- Informing about infectious diseases.
- Registration of the referred cases to the high levels to get remedy services.
- Registration of the data of basic medicines used
- Raising periodical and monthly reports

**Health Care Unit:**

The same information and data mentioned above with expansion in the size of these information and data required with a level of activity and primary health care in addition to:-

- Registration of coverage activities for children, women vaccination and vaccines used.
- Registration of the activities of environment and supervision.
- Registration of the activities of mothers, children, and family health.
- Feedback to the lower level.
- Rewarded inspection.

**Health Center:**

The same information and data with expansion in the size of these information data required to suit the level of activity of the health center in addition to:-

- Registration of the activities of diagnosis services.

**Hospitals:**

The same information and data with expansion in its size to suit the level of the activity of the hospitals (whether in a rural or district or Governorates hospital)

- Registration of the activities of training under the organization and supervision of the hospital.
- Registration of the surgical operations performed in the hospital
- A record for the move of the patients inside patients lounges.
- Feedback to the low level
- A study and unifying, generalizing the medical registration for the patients of lounges in the hospitals.

**Administration of the District/Health affairs Office in the Governorates or Health District:**

- Gathering and analyzing population data in the district or the Governorates / health district.
- Entering periodical and monthly reports in the computer of the Governorates.
- Gathering, reviewing, treating, and analyzing the monthly and periodical to specify the health situation or the Governorates (health district)
- Coordination with the components of health information system.
- Field Supervision for evaluation and direction of the implementation of statistic work in the health establishments in the Governorates (district)
- Preparation of the map of the district and the Governorates to make the population communities appear with distribution of the health utilities and the health employees.
- Issuance and raising the periodical and monthly reports to the high levels.
- Application of the feedback to the high levels.
- Keeping a record for the supplies of the different health utilities
- Issuance of annual reports

## Organization, reporting relationships, timeliness

**Central Level (General Administration For Planning, Statistics And Health Information):**

- Application of the system of statistics and health information on the national level.
- Preparation of a medical record for the patient with a guide for it.
- Laying down a finalization plan of review, and amendment,, implementation of the statistics, and health unified information.
- Implementation of the delivery experience for the evaluation of the system, the extent of its suitability, and the possibility of its success.
- Amendment and necessary adjustment for the system of health system with a guide for it according to the outcomes of evaluation of the experiment.
- Printing and distribution of a guide for the system of health information on different utilities, health projects, Governorates, districts, and such the forms, periodical and monthly reports, records, and compliance to providing them on all levels regularly.
- Generalization and application of the system and conducting practical training necessary for it.

- A follow up to gathering, analyzing data from sectors, projects, Governorates and such the reports submitted from the Governorates.
- Reviewing, treating, analyzing data, and statistic information and entering them in the computer.
- Field supervision to direct, evaluate, the process of statistic implementation in the Governorates.
- Organization and holding short training courses to qualify the technical and statistic cadres.
- Ensuring the persistence and development of technical courses in modern statistics in the health institutes.
- Conducting and implementing statistic surveys, coordination, cooperation with bodies as related to and giving more opportunities for the deprived districts.
- Establishing a network for the system of statistics and health information in the health affairs offices in the Governorates (districts – health districts).
- Application of the process of feedback to the low levels.
- Issuance of annual statistic reports.

**Requirements, Potentials, Equipment:**

**Technical Manpower:**

Level of health center

- One technician and one health statistics.

Level of the hospital (according to the size of hospital) as follows:-

- From 1 to 2 statistic technicians and one medical registrar.
- From 1 to 2 health statistic clerks.
- From 2 to 3 medical registrar clerk
- From 1 to 2 archivist

Level Of Health Affairs In The Governorates:

- 1 with a university graduation qualified having attended statistics health courses and suitable experience.
- 1 computer literate
- From 3 to 4 statistic technician and one medical registrar.
- From 1 to 2 health statistic clerk

Central level:

- 3 qualified university graduates in statistics having attended statistics courses and sufficient experience.
- 2 programs of data in computer
- 3 statistic technicians and one medical registrar.
- 5 technicians of statistics analysis's and data entering

**Potentials, Equipment, Supplies:**

- Finalization of supplying, furnishing, providing computers (calculators) for the central level.
- Providing the equipment required for the process of joining the network of the system of information, providing a computer for each Governorates that haven't got such computers.

- Providing a photocopier for copying documents, calculators, tools of graphs, illustrations, writing appliances, stationery on the central level in some of the Governorates.

**Transport Means:**

To facilitate the process of supervision, assessment and follow up on the central level and the Governorates. The requirements are:

- Means of transport for supervision and assessment on the central level.
- Providing The Costs Of Operation:

## Sources of information

Components of the System of Health Information:

- Epidemic observation
- Health map
- Information about the donors (organizations, governments)
- Epidemic map
- Financial and administration information

**The Objective:**

Finalization and application of national complete health system which could be implemented, logical, easy, realistic, practical, and capable of its cost provides the users of the decision makers the required information on its lowest levels and on all health system to ensure that the information shall be modern and trustworthy and appropriate on time. The main objective of the health system information shall be taking a sound decision.

**The Specific Objectives:**

- Finalization of preparing a unified system of health information including a medical registration of the patient.
- Enhancement and development of the general administration of planning and statistics as the only body responsible for the system of health information and other statistic units technically on different health systems.
- Persistence of work with the system of health information.
- Enhancement of the base information of statistics for health sector.
- Establishing the required data to interact the system of information.
- Enhancement of health information administration in the center and branches in:-
- Finalization and preparation and establishment of health information units on different levels.
- Provision, training, and qualifying the statistics cadres in the health sector.
- Establishing a system that guarantees stabilization of statistic cadres (incentives)
- Dependence on a modern technology of the health information system (health network).

**The Strategies:**

- Unifying the sources of gathering, analyzing and publishing health information.
- Improvising the quality of data and health information to be accurate, comprehensive and scheduled.

- A Study to lay down a unified medical registration for the patient and generalize it on the current hospitals.
- Laying down the required legislation's for the purpose of providing with health information and considers it part of the administrational process.
- Merging the financial and administrational activities in the frame of health information system.
- Enhancing coordination among the sectors as related.
- Preparing a collection of indications including inlet indications, information inlets, outlet indications, and influence indications.

**The Coverage:**

The coverage of the program shall be concluded within the years of the plan for all programs, health establishments, protection and remedy, statistics services throughout a unified health information system.

**Standards**

**A- The Frame of the Establishments:**

The general administration for planning and statistics shall be developed as the only body responsible for the national system for health information with specification for its statistics tasks in different health establishments according to the nature of its activities.

The sector of planning and health development shall be the concerned specialized body to grant approval for conducting researches, surveys, gathering health data, in coordination with the national center for researches and general administration for planning and statistics.

**B- Activities of the Programs:**

- These details shall focus on demonstration and publishing of the data and information.
- Gathering, reviewing, analyzing, demonstrating and publishing data and information.
- Preparing the indicators regarding the health sector.
- Ensuring the feedback with information from the high level to the low level.
- Providing the requirements of statistic work on all levels.
- Technical supervision on the review of the march of work on all levels and stages of statistic work.
- Training and qualifying the technical statistic cadres on different health and administrational establishment levels.
- Preparing and unifying the medical registration for the patient and generalize it on the current hospitals.
- Persistent assessment to the march of the system of health information.

## 5.4 Health Systems Research

It is note worthy that the level of caring for health researches are still limited despite the importance of health researches in the process of health administration. The most important problems that impede health researches are as follows:-

- Absence of the concept that health researches are important for the decision makers.

- Weakness of the financial support in boosting health researches on the local and foreign level.
- The research department is not the only place for approval of health researches or even informed about researches, so any program or department can do their own researches and no one can have a copy or use the results or know about them.
- The published articles /year in the medical researches magazine are from 4 to 7. There are 12 active researchers working in the field with three consultants. There is no funding mechanism for health system researches. The WHO fund is for training, equipments and consultations. The department uses the maintenance fund for field work and gets use of the WHO grant fund for researches like TDR and HSR. As mentioned before the policy makers are not aware of the HSR done, and if they know they will not use their results.

## 5.5 Accountability Mechanisms

Yemen has made significant progress in formal adoption of accountable and participatory governance since its reunification in 1990. The bill of rights in the present constitution and the ratification of all major international human rights instruments are cases in point. However, the delicate balance between a central power on the one hand and the milieu of tribal sheikhs, military leaders and other socially influential characters on the other has complicated the translation of intentions into action.

Accountability and participation are vital for Yemen's development process (including economic growth) as well as for management of existing and potential conflicts. It is in this context that political stability must be upheld while governance reforms are boldly pursued.

The major factors that negatively affect accountability and participation are:

- Lack of institutionalized promotion of and respect for human rights;
- Less than completely free press;
- Weak capacity of formal oversight mechanisms;
- A culture of impunity and ineffective application of laws;
- Weak local governance;
- Weak civil society;
- Lack of transparency in public finances;
- Rent seeking behavior by the private sector and public servants and;
- A bloated and non-merit based civil service.
- Tackling the above issues is complicated by the following challenges:
- Continued dependence of the state on oil revenues, which grants it autonomy from the local economy, as it does not depend on extracting a surplus from local production to cover its expenses;
- Strength of traditional power structures and norms that are not necessarily consistent with internationally accepted human rights norms and ;
- Centrist tendencies that use valid claims of lack of capacity at the local level to delay meaningful decentralization, which would bring power closer to the people.

The mechanics of a parliamentary system have improved over the past decade, as manifested by higher voter registration and turn-out as well as an increasingly assertive Parliament. A bold attempt has been initiated for devolution of state powers to local

levels of Governorates and Districts. Human rights have been enhanced through ensuring free speech and free press and upholding the rights enshrined in various international conventions. Development of an equitable system of justice in a tribal society venerating also religious edicts is proving to be difficult. Although Yemen's formal opening of democratic space is unique in the region, much remains to be done for nurturing a deep rooted and genuine democratic culture, i.e. moving away from traditional structures to institutional and constitutional ones.

The promotion of accountability and participation is contingent upon action in the following areas: Enhancing Human Rights; Rule of Law; Local Governance; Civil Society; combating corruption; and Civil Service and Administrative Reform. In the health system

# 6 HEALTH CARE FINANCE AND EXPENDITURE

## 6.1 Health Expenditure Data and Trends

Yemen is a country challenged with limited economic and social development. In particular, health indicators are some of the lowest in the world, and the task of Improving them is daunting, particularly in light of the difficult economic situation.

The early 1990's were marked by spiraling inflation, real devaluation, and pervasive inefficiency in the public sector, increasing poverty, growing unemployment, and mounting public debt. In 1995, the Government launched an economic reform program with support from the World Bank and the International Monetary Fund (IMF). The government revenues are 37.7 percent of GDP, over 68 percent from oil, 24 percent from taxes, and the remainder from other sources. The external debt to GDP ratio is 74.9 percent (before rescheduling) and gross official reserves account for about 4 months of imports. Another challenge to the Government's efforts to strengthen its economy came in 1998 following a dramatic drop in oil prices. The resulting 15 percent across-the-board cut in the public sector budget, further tightened scarce resources for the health sector. As a result, public spending on health is currently about 2 percent of GDP and 4.8 percent of total government expenditure - the lowest per capita health spending in the region. Limited public resources and poor health indicators are the catalysts from which the Ministry of Public Health (MOPH) is rethinking its strategy in partnership with the World Bank and other key donors.

**Table 6-1 Health Expenditure**

| Indicators | 1995 | 2000 | 2004 |
|---|---|---|---|
| Total health expenditure/capita, | 19 | 20.08 | 36 |
| Total health expenditure as % of GDP | 5.0 | 2.4 | 4.5 |
| Investment Expenditure on Health | 8% | 30% | - |
| Public sector % of total health expenditure | 14.5 | 37.9<br>28.6 | 32 |

*Source:* MOPH&P2004
CSO1990
*20/20 INITIATIVE

**Table 6-2 Sources of finance, by percent**

| Source | 1990 | 1995 | 2000 | 2004 |
|---|---|---|---|---|
| **General Government** | - | - | 28.5 | 29 |
| Central | 1.5 | - | - | 18 |
| State/Provincial and district health offices | - | - | - | 11 |
| Social Security | - | - | - | 1 |

| | | | | |
|---|---|---|---|---|
| **Private (Non Public)** | - | - | - | 65 |
| Private Social Insurance | - | - | - | - |
| Other Private Insurance | - | - | - | 0 |
| Out of Pocket | - | 50.6 | 57.3 | 64 |
| Non profit Institutions | - | - | - | 0 |
| Private firms and corporations | - | - | - | 1 |
| **External sources** | 81 | 25 | 7.7 | 3 |

*Source:* NHA 2003
NHA 1998
Health Expenditure Review 2004

**Trends in financing sources:**

The Second Five-Year Plan contained ambitious plans for YR 32 billion in investments, only moderately lower than the high rate of investment promoted during the First Five-Year Plan (1996-2000). But, this relatively high rate of investment in health infrastructure (as compared to the total health budget) did not appreciably increase the share of income spent by the government (or by the nation as a whole) on health. Throughout the period of both Five-Year Plans, total public spending on health remained among the lowest the Middle East region—both as a percentage of all public spending and as a percentage of national income. As an introduction to a detailed discussion below of the trends in Yemen's health spending.

**Total Spending on Health:**

Total government spending on health has risen substantially during the five-year period 1999 through 2003, doubling from about YR 14.5 billion in 1999 to YR 29.5 billion in 2003 and a cumulative increase of 153% if one takes the base year of 1998 when government health spending was YR 11.7 billion (or 103% if one grows spending from the base year 1999). The growth was uneven; with increases of large increase over the previous year occurring in three of the five years—a 24% increase in 1999, a 35% increase in 2000, and a 34% increase in 2003.

However, these impressive nominal increases in government health spending in 1999, in 2000, and in 2003 did not constitute significant changes in resource allocation to health when compared to two important benchmarks, because both gross domestic product (GDP) and total government spending (in all sectors) grew at similar rates. As a percent of total government expenditure, therefore, government heath spending was unchanged over the period, being 3.8% in 1999 and 3.8% in 2003—even though it rose briefly to 4.3% in 2001. In addition, as a percent of GDP, total health spending was also virtually unchanged, being 1.2% of GDP in 1999 and 1.4% of GDP in 2003 Over the five-year period (using 1998 as the base year), total government health spending grew by 153%, with the recurrent and capital budgets growing, cumulatively, on roughly that same rate. Growth in nominal GDP during the period grew, cumulatively, by 147%. After accounting for population growth (18% over the five-year period), government health spending per capita in 2003 was 114% greater than in 1998 , while GDP per capita in 2003 was 109% greater than in 1998 . After accounting for consumer price inflation of 58% over the same period, and exchange rate devaluation of 35% over that period, the increases in both health spending and in GDP did not translate into very much real growth.

Cumulative growth in real GDP per capita over the period was only 3% so it is safe to assume real government health spending per capita was not significantly changed in 2003 as compared to 1998.

The relative stability of total government health spending as compared to macroeconomic benchmarks is a continuation of the relatively low levels of spending that have obtained since 1990. While the levels of health spending during the recent five-year period (1999-2003) did constitute an increase from the depressed levels that occurred during the period of civil unrest in 1993 and 1994, they remain among the lowest in the Middle East region, in which many countries have typically allocated from 5% to 15% of total government expenditures on health (as compared to roughly 4% in Yemen).

**Recurrent Spending:**

Recurrent government spending on health has averaged about three-fourths of total government health spending from 1999 through 2003—ranging from a low 72% in 2000 and in 2003 to a high of 77% in 2001 .The average annual increase over the five-year period was 18%, but there was negative growth (-5%) from 2001 to 2002. The decline in recurrent spending for 2002 was largely attributable to a significant YR 1.3 billion decline the "Goods and Services" category, including a YR 0.8 billion decline in "drugs and medical supplies". This decline for 2002, however, was followed by a relatively large 28% increase for 2003.

**Investment Spending:**

While government investment spending for health averaged about one-fourth of total MoPHP spending during the 1999-2003 period, there were considerable variations in its proportion of the total, and in its growth rates, from year to year. In fact, the large increases in total government spending for health that occurred in 2000 and again in 2003 were largely driven by substantial increases in government investment spending, helped substantially by increases in foreign assistance. From 1999 to 2000, government investment spending grew by 54% from YR 3.6 billion to YR 5.5 billion. Similarly, from 2002 to 2003, government investment spending grew again by 54% from YR 5.4 billion to YR 8.4 billion. The investment increase in 2000 was generated largely by a 92% increase in foreign assistance (YR 3.8 billion in 2000 compared to YR 2.0 billion in 1999), whereas the investment increase in 2003 was generated largely by a net increase in health investment by the government of 80% (YR 4.3 billion in 2003 compared in YR 2.4 billion in 2002). Between these two atypical increases, there was a lull in investment spending, with the overall government total investment in health declining by 18% in 2001 (foreign assistance dropping by 31%)and the overall total rising only 1% the following year (when foreign assistance dropped again by 33%).

There are six major sources of funds for government health investment spending:

1. The central MoPHP budget,
2. Foreign assistance;
3. Governorate health budgets,
4. The Social Fund for Development (SFD) (under the Prime Minister's Office);
5. The Public Works Project (PWP) (under the MoP&D); and
6. The Ministry of Finance, which directly funds the central MoPHP budget, the governorate budgets, as well as Al-Kuwait and Al-Thawra Hospitals in Sana'a and the Supreme Drug Authority.

The central MoPHP and governorate budgets are included in a combined MoPHP budget, but the responsibility for execution of the projects is divided between the center and the governorates and districts. Foreign assistance funds are channeled through a number of

institutions (including the SFD and the PWP), but the bulk of foreign assistance (including loans) is provided in support of the investment projects of the MoPHP. Investment projects funded by foreign assistance are typically approved by the MoPHP, but are usually executed in conjunction with the Ministry of Planning and International Cooperation and the donors. The SFD and the PWP have budgets that are independent of those of the MoPHP and of each other. Both receive funds from foreign assistance sources that are not included under the "foreign assistance" category, since they have multiple sources of funding. Thus, foreign assistance funds are channeled through various institutional budgets, although the distinction between the first three categories (central MoPHP budget, foreign assistance, and governorate health budgets) means, for purposes of the analysis in this section, that the central MoPHP and governorate health budgets referred to below are those funded from the general revenues of the Republic of Yemen, and the foreign assistance (when labeled as such) is that which is not channeled otherwise through the SFD nor the PWP.

## Health expenditures by category

**Table 6-3 Health Expenditures by Category**

| Categories | 1990 | 1995 | 2000 | 2004 |
|---|---|---|---|---|
| Total expenditure: (specify if only public) | 1.5s | - | - | - |
| % capital expenditure | 3.8 | - | 6.2 | - |
| % by type of service | - | - | - | - |
| Curative Care | - | - | 10 | - |
| Rehabilitative Care | - | - | - | - |
| Preventive Care | - | - | - | - |
| Primary/MCH AND Family Planning | - | - | 6.5 | - |
| Administration | - | - | 2 | - |
| % by item | - | - | - | - |
| Staff costs | - | - | 34.3% | - |
| Drugs and supplies | - | - | 2% | - |
| Other | - | - | 9% | - |

### Allocation of Recurrent Spending

Of the three-fourths of the MoPHP budget that is spent on operations (the recurrent budget), roughly one-half is spent on wages and salaries, about one-third is spent on "goods and services" (including drugs and medical supplies), and about one-seventh is spent on "current transfers and support". On average over the five-year period, only about 4% of the recurrent budget (3% of the total budget) is spent on "maintenance" of facilities and equipment.

These approximate shares of the recurrent budget could be said to have been relatively stable over the five-year period were it not for a significant variation in "goods and services": for the year 2002, the amount spent on "goods and services" (YR 4.5 billion) was about YR 1.0 billion lower than it was for 2001, dropping from 31% to 25% of the recurrent budget. Most of the decline was attributable to lower spending on drugs and

medical supplies, which dropped from YR 2.0 billion in 2001 to YR 1.1 billion in 2002. While "drugs and medical supplies" had been between 8% and 9% of the recurrent budget for 1999 and 2000, its share rose to 12% for 2001, before dropping to 6% for 2002. For 2003, the total amount spent on "goods and services" rose dramatically from the YR 4.5 billion to YR 8.2 billion—an 81% year-over-year increase, thus raising its share from 25% up to 36% of the total recurrent budget. [Details of breakdown for "drugs and medical supplies" are unavailable.]

### Allocation of Investment Spending

About one-fourth of total government spending on health is spent on investments in health facilities and equipment (mainly, by "acquiring fixed capital assets"). The levels and trends in such spending has been quite variable over the five-period, however, particularly as they reflect changes in the distribution between Central MoPHP investment spending and investment spending by the governorates. It was noted above that there were substantial year-over-year increase in investment spending in 2000 and in 2003—roughly in the range of 60%. This uneven growth, however, reflects two underlying trends: first, there was a large (86%) increase in Central MoPHP investment spending in 2000 while there was a large drop (33%) in governorate investment spending in that same year; second, the overall drop in investment spending in the following two years was marked by a successive reversals in the distribution of spending between the center and the governorates—with the governorates getting almost 80% of the total in 2001 (compared to 9% in 2000) and then getting only 15% in 2002. The spike in spending in 2000 was also characterized by a large increase in foreign assistance—from about YR 2.0 in 1999 to about YR 3.8 billion in 2000, which accounted for more than three-fourths of the governments investment spending on health in that year.

These variations in investment spending are due to a number of factors (to be discussed in more detail below). First, the process of decentralization that began in 2001 disrupted traditional investment allocation patterns and the distribution of funds reflected some one-time effects in the budgets of the transition process. Second, at the same time decentralization was being initiated, the Central MoPHP suspended new construction in 2001 in order to focus on completion of ongoing projects. This shift in policy led to some disruption of the allocation pattern. Third, attribution of the source of funds (center or governorate) may have been somewhat arbitrary for budget purposes during the decentralization transition period. (The 2003 distribution between Central MoPHP and the governorates was roughly the same as it was in 1999). However, the portion contributed by foreign assistance had declined substantially and was only one-third of the 2003 total, as compared to the two-thirds it contributed to the 1999 total. Another perspective on the 2003 investment budget, however, is to note that the YR 1.1 billion investment by the government in 1999 had increased to almost YR 4.3 billion by 2003.)

### Allocation among Geographic Regions

Control over budget and expenditure decisions has devolved to governorates and the districts (effective in 2001) as a result of decentralization. The portion of the government budget controlled by the Central MoPHP has therefore declined. In 1998, the Central MoPHP retained direct control over 46% of the total budget while by 2003 it controlled only 33% of the total. While there will be a transitional period before adequate administrative capacity and expenditure controls are developed at governorate and district levels, the Central MoPHP will retain some level of control over budgetary allocations to them for several years.

In order to assess the recent trends in distribution of the MoPHP budget among the geographic regions, recurrent expenditures and investment expenditures were calculated

by governorate, in the aggregate, for the five-year period .The geographic distribution of expenditures for the period was then compared to the geographic distribution of the population using two methods: first, per capita spending by governorate was compared to per capita spending nationwide; and, second, the percentage distribution of spending by governorate was compared to the percentage distribution of the population by governorate.

Annual per capita recurrent spending through governorate budgets was YR 497 for the five-year period, while annual per capita investment spending through governorate budgets was YR 45. There is a wide range of annual per capita spending figures by governorate around these national averages. The differences are also evident when the percentage distribution of spending is compared to the percentage distribution of population.

While these data imply an uneven distribution of funds by government, it should be said that a proper or fair distribution of the MoPHP budgets by governorate might not necessarily correspond to the distribution of the population by governorate. Population centers in Sana'a City, Aden, and Hadramout are the location of regional referral and specialized hospital facilities that serve a catchment area that go beyond the governorate borders, including to some degree most of the nation. There are also bound to be differences in health problems from one region to another, and these differences could, to some degree, justify differences in how the MoPHP allocates its resources. Furthermore, there are certainly differences in the size and technological quality of the health services infrastructure (number and types of facilities, number of staff, sophisticated equipment, etc.) that would inevitably be associated with differences in costs (as noted, due to the concentration of secondary and tertiary care facilities in population centers) To be sure, more detailed analysis would be needed to draw any conclusions about the fairness or appropriateness of the distribution—which would be a matter of judgment in any event. There is no question, however, that, in general, most resources and staff are highly concentrated in and around urban areas, while services in rural and remote regions remain several understaffed and underfinanced. As will be seen, increasing the investment budget to focus on the peripheral areas does not necessarily improve access to services—if (and when) the recurrent budget and/or availability of trained staff are not increased concomitantly.

## 6.2 Tax-based Financing

In addition to its contribution to GDP, the manufacturing sector has important fiscal contributions in the form of direct and indirect taxes (including income, production and consumption taxes as well as taxes on value-added and custom duties on imported raw material). The country's total indirect tax revenues were YR 55 billion in 1999. According to 1999 survey, the total indirect tax from the manufacturing sector was estimated at YR 10.1 billion representing about 18% of total indirect taxes. With custom duties, the contribution of manufacturing to total indirect taxes reached 21%. The large establishments contributed 98% of total indirect taxes while medium and small establishments contributed only 0.1% and 1.7% respectively.

### Key issues and concerns

After unification the parliament of Yemen passed three new tax laws to give the country consolidate new tax structure law no 31/91 regulated the taxation of incomes and profits law no. 70/91 introduced a tax on production consumption and services (TPCS) and customs law no. 14/90 introduced a new tariff structure. All three laws remained virtually

unchanged over the period 1990-1994 but between 1995 and 1999 were amended several times in an initial effort to make some improvements in the tax system. However more comprehensive reforms are underway to modernize the entire tax code.

The 1991 law specified an individuate income tax with four brackets. Tax rates on wages, salaries, and rental income varied between 3 percent for the lowest bracket and 16 percent in the top bracket (22 percent for nonresidents). Owing to the high levels of inflation, by end-1994 virtually all taxpayers were in the highest 16 percent bracket and the income tax had become essentially a proportional tax. Businesses were taxed at rates between 28 percent and 36 percent varying for proprietary status, monopolies, and residency status. Under the 1991 code, individual taxpayers were taxed differently depending on the source of income, and tax from different sources was not aggregated. Moreover, income taxes suffered from the numerous exemptions contained in the 1991 Investment Law. In 1996, the income tax law was amended and tax rates for corporations were unified at 35 percent. Proprietors continued to pay afloat rate of 28 percent.

Further changes to the income tax law were introduced by presidential decree in early 1999. These amendments replaced previous provisions with a progressive rate structure for personal income (including from proprietorship) above YRls 36.000; raised the top tax rate on wages and salaries from 16 percent to 20 percent, included foreign income in the tax base; simplified the depreciation schedule, and clarified the penalty regime. The authorities recognize that further adjustments to the income tax code are desirable to achieve a consistent treatment of income from different sources and restrict exemptions, and are therefore working towards a more comprehensive reform. Of particular concern are the integration of corporate and personal taxes to limit tax avoidance, the taxation of income from agricultural sources and rental income as regular income, the simplification of the depreciation schedule, the clarification of international tax rules, the simplification of procedures, and the design of an affective penalty regime.

The 1991 TPCS law consolidated numerous excise taxes. Despite its name, the tax covered originally only about 35 products, including qat, and tax rates varied between 5 percent and 40 percent with twice the rate applied to imported goods. Specific excises were levied on petroleum products and cigarettes. In 1996, the tax base was broadened to about 100 goods and services, and the rate differentiation for domestic and imported goods, was eliminated by presidential decree. The decree also established a limited tax credit mechanism to reduce cascading under the TPCS. Moreover, the specific taxes on petroleum products were converted to an advalorem tax, mostly at the rate of 2 percent, and specific cigarette taxes were converted to advalorem taxes at rates of 60 percent for domestic products and 80 percent for imported products.

The amendments introduced by decree were later altered by parliament, which reduced the number of goods and services covered by the TPCS in 1997. Additional minor changes regarding coverage were introduced by decree in January 1999. These related to the list of exempt goods, the tax base for certain imported goods, and confiscation of cigarettes. The administration of the tax suffers from the multiple rate structure. In addition, it has limited revenue potential owing to a restricted base. The authorities are therefore committed to replace the TPCS with a broad based value-added tax (called General Sales Tax or GST).

A tax law providing for a 10 percent broad-based GST with a strictly limited list of exemptions, a credit mechanism, and zero-rating of exports was approved by the government in 1999 and is pending before parliament. The GST would originally apply only to all imports and to domestic sales of the 800- 1.000 largest taxpayers, depending

on turnover. A few excises on petroleum, tobacco products, and qat would remain in place under the cover of the TPCS. Parliament removed stamp duties on banking and customs transactions in May 1998. Stamp duties were applied to commercial and government transactions and based on the value of transactions. The application of customs and banking stamp duties was complicated and the list revenue was largely replaced by taxing services and imports.

### Planned changes

The authorities have taken several steps to improve revenue collection and tax administration. The most important was the introduction of a new taxpayer identification number (TIN). While a TIN system exited before 1997, it suffered from shortcomings due to unnecessary codlings. A new computerized pilot system allowing for online registration of taxpayers in several tax centers was recently introduced and online registration of taxpayers should begin in 2000. The new system will allow for a range of tax reports based on the taxpayer database. Customs clearance of imports now also depends on the presentation of a valid TIN, In addition, the tax administration introduced cigarette bankrolls in 1997 to improve identification of untaxed cigarettes, Moreover, through improvements in manual procedures, efficiency gains have been realized in the tax authority. Jointly with the introduction of a GST, the tax administration plans further reform steps. These include the creation of a large taxpayer unit, which would handle all taxes, including income taxes and withholding taxes, paid by taxpayers above a certain threshold for turnover. Further, the Tax Authority plans to modernize tax administration through self-assessment procedures, targeted auditing, and enhancement of taxpayer services provided by the taxpayer services unit established in 1999

## 6.3 Insurance

Since the Ministry of Health is not capable of presenting health services as required to all population, and in consideration to the society refraining from government health services due to its weak quality and lack of financial resources, the Ministry of Health should take the following strategic procedures:-

- It is necessary to exert the necessary efforts to expand and develop the system of health insurance through a good preparation and benefiting from the experiences of others in this field.
- A good preparation of the cadres that bear the responsibility to manage this system.
- Preparation and training of the cadres.) This statement quoted from the second five-year plane. So the MOPH&P will start the health insurance coverage for the government employee after finishing the situation analysis studies and establishing the new program.

**Table 6-4 Population coverage by source**

| Source of Coverage | 1990 | 1995 | 2000 | 2004 |
|---|---|---|---|---|
| Social Insurance | - | - | - | - |
| Other Private Insurance | - | - | - | - |
| Out of Pocket | - | - | - | - |
| Private firms and corporations | - | - | - | - |
| Government | - | - | - | - |
| **Uninsured/Uncovered** | - | - | - | - |

## 6.4 Out-of-Pocket Payments

Out-of-pocket payments of user fees by patients—known as cost sharing (when paying for services) and cost-recovery (when paying for drugs) has become an increasingly important component of financing health services in Yemen. While a number of steps were taken during the 1990s to develop and test approaches to cost-sharing and cost-recovery, a formal legal foundation for them did not exist until January, 1999, after the efforts to develop the Health Sector Reform Strategy had built momentum and developed a consensus that such a financing reform was needed. At that time, the MoPH&P proposed a Cabinet resolution, subsequently passed by the Cabinet (as Resolution #15), which enabled health facilities to charge for health services. This decree provided a legal foundation for wide implementation of cost sharing. By then also, the National Revolving Drug Fund had been established to improve access to quality drugs at affordable prices. It was intended that a "financially and administratively" independent Drug Fund would supply drugs and medical supplies to government facilities "at their request and against payment of costs of the goods plus a service fee." It was thought that donor funding would enable purchase of an initial stock of medicines, while revolving revenues from fees charged (which were to be used only to buy drugs again) would facilitate continuing procurement". Subsequently, by-laws were developed to facilitate implementation of the new policies, which were tempered by general authorized exemptions for those who could not afford to pay.

### (Direct Payments) Public sector formal user fees: scope, scale, issues and concerns

There have been several significant developments with respect to cost sharing and cost-recovery in recent years. First, devolution of power from the center to the governorates and the districts occurred through the creation of elected Local Councils and associated Local Authorities. The first elections were in 2001, the first exercise of decentralized decision making in 2002. While the original resolution authorizing cost sharing had given individual facilities (i.e., their governing bodies), the right to allocate user fee revenues as they saw fit. The Law on Local Administration explicitly authorized Local Authorities to collect the government revenue from all government services and to decide how they would be allocated (within the jurisdiction of the authority). Since this policy was at odds with the original decree, which had been put into practice in many locations, there was uneven compliance. Many facilities refused to remit fees to the Local Authorities and continued to collect and allocate them as they saw fit. In some places, Local Authorities took control of the revenues. Practices now vary across the country from one place to the next, and there is transparency and accountability neither for collection of fees nor for distribution of the revenues.

Financing policy had three elements:

1. Second, while the Drug Fund reduced leakage of drugs and somewhat improved the availability of drugs in government facilities, a number of serious problems remain. The costs of drugs (where available) in public facilities are still high (though much lower than in private pharmacies), exemptions policies (for the poor) are inconsistent and not well administered, the distribution system remains extremely inefficient, and the "revolving" nature of the Drug Fund is not functioning. That is, revenues from sales of Drug-Fund-supplied medicines in public facilities are used for other purposes besides purchasing new stocks of drugs. In fact, it is not part of the mandate of the Drug Fund to ensure that revenues collected from the sale of its drugs are used to purchase replacement drugs. In fact, the locus of accountability for those revenues is

not clear. Earlier this year, the MoF completely cut off financing for the Drug Fund, noting that it had accumulated debts said to be over YR 2 billion for drugs it had distributed and was supposed to have been paid for. After convening a workshop to deliberate on the problems and alternative solutions, the MoPHP was able to achieve a consensus on drug Drugs are to be given free-of-charge to persons suffering from certain chronic diseases, like diabetes, tuberculosis, and malaria (it was estimated that 30% of the total spending for “drugs and medical supplies” would be taken up by these drugs);

2. Consumable supplies and medical appliances (disposable syringes, bandages, etc.) would be supplied free-of-charge and would not be supplied from a revolving fund (it was estimated that about 20% to 30% of total spending for “ drugs and medical supplies” would be taken up by these items); and Drugs from the essential drug list would be supplied on a revolving basis and must be paid for, with an exemption made for the poor (after exemptions for the poor, it was estimated that an amount equivalent to 20% to 30% of the total drug bill would be recovered—and revolved towards purchase of new stocks of the same drugs).

It was noted by one observer that this consensus was essentially an approximation of practices that had developed up until that time. The Drug Fund, however, continues to have no responsibility for ensuring that funds collected for its drugs are used only to repurchase drugs from the Fund. In any event, the by-laws drafted by the MoPHP to implement these policies have not yet been finally approved by the MoF.

## Cost Sharing

In Yemen, as in many other countries, the health services are under a severe financial strain, which cannot be resolved with the present budgetary allocations. The funds provided for health care provision are insufficient and the burden of obtaining adequate quality care is left to the individual patient, often at high cost. Budgetary allocations and donor subsidies are spent to temporarily and partially alleviate the burden on the health care consumer but the funds do not circulate back into the system to maintain even the most basic services. To complicate matters, the funding available to the system is often inappropriately allocated under inflexible budget headings, which often do not correspond to local needs. Also, it is an open secret that there are hardly any health facilities where the staffs, due to their low salaries, do not solicit "under the table" contributions from patients. Cost recovery in Yemen is being initiated in order to resolve these issues and to create the possibility to deliver essential health care services to the people at an affordable price, with a fee system, which is both transparent and public.

In Yemen, the introduction of cost sharing has been facilitated by the publishing of the official document, "Forward Looking Policies and Strategies for Health Development in the Republic of Yemen", produced after the First National Conference for Health Development in February, 1994. Following the publishing of this document, a task force of the Donors' Coordination Committee in the Ministry of Public Health has elaborated the details of an appropriate cost sharing system for the district level, and the draft for the law, which covers this innovative policy. A Cost Sharing Guide has been prepared by this task force in which the system has been described.

The objective of the cost sharing strategy in Yemen is to secure sufficient funds through revenues from fees and charges for services in order to improve maintenance of facilities and supply of drugs, as well as the motivation and performance of health personnel.

In contrast to private facilities, the government does not expect full cost recovery through user charges. The government remains fully responsible for personnel costs,

investments, preventive health programs, and subsidies to disadvantaged regions and population groups. Cost sharing is meant to shift the budgets set free through user contributions to health promotion and disease prevention.

Cost sharing in Yemen depends on two types of charges. The first is fee for service, or user fees, for curative services. In Yemen, it is expected that user fees will contribute approximately 10-15% (World Bank, 1998) to overall running costs in government facilities. The 1998 Public Expenditure Review (ibid.) estimates that for NGO and community owned facilities, revenues may reach as high as 70% of running costs. The second type of charge will be for essential drugs. The government will import low cost, good quality, generic essential drugs, and recover 100% of the costs for these basic essential drugs through client payments into a revolving drug fund.

In order for the revolving drug fund to be successful, four aspects of the overall health system must be put in place. Some of these have already been initiated. First is the reform of the central drug procurement and distribution system. Four regional stores for drugs and medical appliances have been established in Sana'a, Hodeidah, Aden and Mukalla that will in turn supply a number of governorate stores. The headquarters in the MoPH will concentrate on drug policy issues, calculation of the national demand, international tendering, central procurement, allocation of free drugs as well as subsidies to regions, and monitoring of the national supply system. It is planned that the Logistic Unit for Drugs and Appliances in the MoPH will become a public company once experience has been gained in this new system.

Second, in order to protect the population against misuse of drugs and to reduce the consumption of drugs, much weight will be given to training of health staff in rational prescribing. This has already begun in a number of districts.

Third, effective cost sharing depends on functioning district management system and community participation. In Yemen, cost sharing will first be introduced at the district level. Districts which have developed a minimum capacity in service delivery and management, where political support can be expected and where poverty among the population is not too serious a limiting factor will be selected first. Within the district, cost sharing will be started in the health centers that have more developed technical and managerial skills, then be introduced to health units, and after that to rural hospitals, where the system needs to be more complex due to the variety of services offered, and later to the village level once a community based health care system has been established.

Fourth, because the main financial objective of cost sharing is to make adequate funds available at the service level, the revenue from cost sharing will stay with the health service where it was generated in order to avoid losses on its way through the different administrative levels. Transparent, community co-managed control systems will be put in place to ensure that funds are used appropriately, according to guidelines set up at a national level, and, within this, according to district management decisions.

The Public Expenditure Review for the Health Sector (World Bank, 1998) made note of the necessity for government to ensure that in addition to outpatient fees, hospitalization fees must remain modest and affordable for most households. Hospitalizations are presently experienced as catastrophic events for most households, completely unaffordable for many, and for others, leading to debt and the selling off of assets. As such, a strategy will need to be developed for making necessary hospitalizations affordable. Cost sharing, as it relates to hospitalizations, will be studied further during the initial phase of the reform, and financing and fee structures will be put in place. It will be implemented hand in hand with restructuring, and with the institution of efficiency

measures in hospitals, which are currently resource inefficient. The section on hospital autonomy deals more fully with these issues. Cost sharing is only one component of financing, and its role is designed to be complementary to other financing mechanisms such as government financing.

## 6.5 External Sources of Finance

Externally, Yemen experienced substantial losses from the cut-off of foreign assistance and the expulsion of at least 800,000 Yemenis from the Gulf in 1991. The reduction of worker remittances by over two thirds also weakened community self-help organizations that had depended on them. Major assistance from socialist countries ended with the collapse of the Soviet Union. Political and economic relations with Saudi Arabia, Yemen's most important neighbor, remained uneasy until recently, at considerable cost to Yemeni producers and traders.

External assistance to Yemen has been modest since the Gulf War, but recently has begun to increase in response to successful diplomatic efforts with Gulf Cooperation Council (GCC) countries and since September 11, 2001. The Netherlands, Yemen's most consistent major bilateral donor, pledged a major increase in its assistance earlier in 2001, and the United States, the largest bilateral in 2000 because of large food aid grants, also announced both new security assistance (including aid to the coast guard which could become helpful in enforcing fishing regulations) and increased economic aid. France also announced in 2001 a substantial increase in its aid program. Yemen has benefited from greatly improved relations with its neighbors over the past three years. The settlement of a territorial dispute with Eritrea and an old border dispute with Saudi Arabia helped to eliminate some security-related uncertainties. Diplomatic efforts have also led to normalization of relations with Kuwait and the first steps in accession of Yemen to the GCC. Trade, especially with Saudi Arabia has increased substantially.

## 6.6 Provider Payment Mechanisms

### Hospital payment methods

When patients do go to health facilities the cost is high, with on average $245 for an admission if including referral outside Yemen, $96.57 if excluding referral outside Yemen and $18.70 for an out patient consultation. Both private as well as government hospitals are investing in advanced diagnostic and therapeutic equipment.

This in itself is not necessarily bad - given the current early epidemiological shift from infectious to non-infectious diseases and the large number of injuries due to road accidents and gunshots. However, the resulting costs for households is a consequence for which most Yemenis are ill prepared and this reconfirms the need to put into place insurance mechanisms – even the President of the Republic has mentioned this.

The average total cost for a hospital admission in government facilities is slightly lower than in private hospitals. This finding – contrary to common thought that private hospitals are much more expensive – is due to cost linked to patients required to buy drugs outside in private pharmacies. Outpatient consultancies in government facilities is cheaper with $13.06 than in private health facilities with $24.33, but is considered by most respondents of poorer quality. The main expenditure item with 59% both for public and private facilities is purchasing drugs outside in private pharmacies. This practice is NOT appreciated and 84% of respondents who visited a government health facility said there were not enough drugs while this was 52% for those who visited a private facility. The average cost of purchasing drugs directly in a pharmacy was $5.05, which is

approximately 25% of the cost for a consultation in a health facility and 74% of the respondents thought that the cost of buying drugs directly in a pharmacy was “reasonable”. (Appraisal report for HSR-2004)

## Payment to health care personnel:

The survey indicates that the majority of the general staff (70.3%) earns between YR8.000-16.000 (US$47-94) per month; 22.8% of them earn more than YR16.000 (US$94) and 6.9% earn less than YR8.000 (US$47).

Considering that a salary of YR 16,000 barely covers the basic needs of an average family, it is not surprising that 94.2% of the respondents declare that their income is inadequate. Conversely, it is surprising that only 19.5% declare to recur to other sources of income to compensate for their low salaries. It is likely that their declarations are biased by fear of disclosing an illegal behavior.

# 7 HUMAN RESOURCES

## 7.1 Human resources availability and creation

**Table 7-1 Health care personnel**

| Personnel per 100,000 population | 1990 | 1995 | 2000 | 2004 |
|---|---|---|---|---|
| Physicians | 23.3 | 22.0 | 19.1 | 22.8 |
| Dentists | 1.2 | 1.4 | 1.3 | 1.3 |
| Pharmacists | 4.4 | 6.4 | 7.0 | 8.0 |
| Nurses | 29.8 | 39.6 | 29.7 | 51.1 |
| Medical assistant | 5.1 | 7.0 | 5.2 | 7.4 |
| Midwives | 1.7 | 2.6 | 7.1 | 13.6 |
| Laboratory technicians | 4.4 | 3.9 | 5.2 | 9.9 |
| Others | 23.9 | 8.8 | 22.0 | 78.0 |

In February 1994, the MOPH of Yemen developed National Policies and Strategies for Health Development (MOPH, 1994). This document addressed the main health problems, priorities, and objectives. The general directions for action on human resources development were one of the crucial areas addressed by this national policy and strategy document. It emphasized on:

- The need to develop a national plan for the development of human resources for health that should be prepared in co-ordination with training institutions.
- The need for horizontal and vertical expansion of current personnel training institutions to solve the shortage in distribution of health staff. Training of all categories must, as far as possible, be community oriented and respond to the actual needs of the country.
- The need for clear job description, job analysis, proper incentives, career advancement, systematic evaluation and demarcation between public and private sectors.

**Legislation:**

- **Laws governing health profession practice :**

In 1999, the MOPH decided to reform the current laws regarded health professions and private medical facilities and pharmacies, in order to upgrade the health policy to achieve the objectives of HSR. The following laws were issued:

- The medical council/law.
- The medical professions practice law. - The private medical facilities law..
- The counterpart technical profession practice law (draft has not been discussed by Parliament).

The proposed laws regulate the medical and health practice and addressed the requirements of registration, documentation and legal licensing of medical professional

practice. They identify the fields and functions of the different health staff and their rights and duties toward patients and community.

- **Laws related to qualifications and training:**

There are several laws and resolutions concerning training and education of health personnel. Those regulate the health manpower institutes (HMIS) and community colleges such as the law NO 9 of the year 1975 regarding the establishment of health institutes. Ministerial Resolution NO 286/11 of the year 1999 regarding the study system and educational scale of the higher and sub higher health institutes. Other laws regulating universities and medical specialization such as the law NO 18 of the year 1995 regarding Yemeni Universities. The Republican decrees NO 55 of the year 1994 regarding the establishment of Yemeni Council for Medical Specialization. The law NO 18 of the year 1999 for missions, gifts and study and training leaves. Those laws and resolutions address the educational level of the trainees applying for study in relevant institutes, and the level and type of certificates to be granted to the trainees. The organizational and regulations identify the vocational and technical training curricula of institutes, universities and community collages.

- **Laws related to human resource administration:**

The law NO 19 of the year 1991 of civil services and its executive by laws determined the lower and upper scale of salaries for the public sector employees, the salaries range between 1800- 12200 YR. The bonus range is100-300YR (1 $= 165YR). To reach group one you need to have at least 24 years work experience after Doctoral Degree or Master Degree, and 30 years after bachelor Degree. The bye-law determine the incentives as either material by transferring of the employee from his current rank to the next higher one within the same class or moral by giving him appreciation certificate or priority of attending courses held locally and abroad.

## Health staff planning:

Aiming at improving the manpower development process, the MOPH has conducted a nation wide survey on health manpower and health facilities in the unified Yemen in 1992. The purpose of this survey was to establish unified data on health instructions and manpower in order to help the planners in MOPH to formulate appropriate plans for human resources development in Yemen, In 1996 the first five years national plan for health development has set up, In 1998 MOPH conducted countrywide survey on health human resources and health facilities and in the same year MOPH adopted the health sector reform strategies. The second five years plan for health development was launched on August 2000 for the period 2001-2005.

## Distribution of health personnel:

A reform committee was set up in 1999 by MOPH, with one of the tasks to redistribute health personnel. The committee undertook staffing standard. Tarmoom studied to the results of the reform committee, and he confirmed the presence of discrepancies in health personnel allocation and organization.

## Distribution of health personnel by Gender:

The distribution of health personnel by gender is important from three points of view. First it shows fairness in educational and employment opportunities for both sexes (MOHP,1997). Second, majority of the females in Yemen refuse to be examined and treated by male physician or nurse, especially for antenatal and gynecological care. Third this denies the freedom to choose health care providers the clients prefer (MOHP, 1997).

The females' cadres are minority in Yemen, ranging 17% to 39%, of total physicians, nurses and midwives, technicians and administration, taking into account that all midwives are females. The total health personnel in Yemen are 32590, 72 % of who are - males and 28 % are female yet total female population of Yemen is, approximately about half of the population and majority of females prefer female health care providers, especially in rural areas where 75% of the population live.

## Geographical distribution of health personnel:

The distribution of health personnel in different cities where 16% of health workers are located in Aden city, 15% in capital Sana'a. These governorates have 3% and 8% of the total population respectively. In contrast to Ibb , Sana' a, Hodeida and Hajja governorates with 11 %, 12%, 11 % and 9% of total population, have only 5%, 6% , 6% and 4% of health personnel respectively. Approximately 43% of general practitioners and 24% of nurses and midwives are located in Aden and the capital city in which they form only 11 % the total population AL-Jawf , Hajja, Dhamar, Sadah, and Sana'a governorates have the highest population/doctor ratio, while Aden, Sana'a city, AI-Mahara, Hadramout, and Lahj governorates have the lowest population/ doctor ratio. Sana'a G, AL-Jawf, Hajja, Dhamar, and AI-Mahweet governorates have the highest population/nurse ratio, while AL-Mahara, Aden, Abyan, Lahj, and Hadramout governorates have the lowest population/ nurse ratio.

## National five- year plan for health development:

Strategies of MOPH concerning human resources put emphasis on the need to develop human resources plan within the context of a national health plan. The strategies for the second five-year plan are based on health sector reform policies and strategies. It reaffirmed on providing PHC and increasing it's coverage rate from 48% to 75% by the end of the plan, development of health services infrastructure to improve the performance, and priority in training for female. The other policies and strategies of the plan are the same as HSR strategies that has been mentioned previously. The human resource development plan has evolved within the context of the national health plan. the national plan embodies the total requirement of health

staff for the next five years In the five-year plan there are many vertical programs and building of 24 district hospitals, 10 governorate hospitals, and 3 specialized hospitals. In addition to other building' investment such as, 269 health centers, and 672 health units Majority of them located in/or near urban areas.

## Priority problems and Staff performance:

Yemen as other developing countries suffers from weakness in health personnel management. The health staff having low salaries, monthly wages per staff US,, 85 (Tarmoom, 2000), which is extremely low and cannot maintain the living of an individual. MOPH is responsible for recruitment of all health graduates, Doctors and other categories are rarely self-employed, even those who work with NGOs, they are MOPH employees and receiving their salaries from MOPH Bribe, nepotism and mediation are the crucial factors in employment process and getting a job. Appointments of senior staff are based on nepotism or political factors rather than ability, skills and experience. As a result, there is high turn over of key managers usually associated with change of government in or minister.

The main problems that affect staff performance Yemen are:

- Absence of performance management mechanism: absence of job description, job analysis, and incentives. Slow and unsuitable career ladder and poor working

conditions. The lack of tools and skills to evaluate the quality of services, consequently reward good performance, and the sanction less performance. Attendance is the only valued, rather than well work, and even they rarely work the hours stipulated.

- Lack of essential resources and limited authority to manage resource: the managers in health facilities and administrative offices at all levels do not have direct control over budgets nor on other supplies and resources.
- Limited authorities to manage health staff: many health staff is posted to health facilities by central government and cannot be moved. The governorates health offices and directors of health facilities have not authority to deploy health staff. .
- Weakness in management skills and capabilities in general and human resources particularly.
- The staffs that belong to public sector are working at the same time in private sector.
- Lack of in-service educational program to develop health cadre's skills, particularly management skills.
- All these factors affect the performance of health personnel, lead to poor staff Commitment and low staff moral towards work.

## Trends in skill mix, turnover and distribution and key current human resource issues and concerns

Policies and strategies concerning distribution of health personnel issued by MOPH in Yemen do reaffirm equity in distribution of health personnel (MOPH, 1994), the health sector reform strategies cited that all technical staff below Physician level will be recruited for training from the health facility and be chosen by their community (MOPH 1998b), It is clear from the review of the geographical distribution that most of health cadres are located in cities and in limited number of governorates particularly Aden and Sana'a. There is a difference in density of health personnel between South and North governorates. While the South governorate has not suffered from shortage in health cadres especially nursing and other auxiliaries, the North governorates have shortage in health personnel. The main cause for disparities is the population density since the northern governorates have more population density than the South. Other cause is the differences in administrative features between the two parts of Yemen before unification. Training institutes in each governorate to cover the need for health staff was established in the south more early than in the north.

The strategies for achieving equity in distribution of health staff cannot realize their approach unless they address the structural, organizational, legislative and financial barriers, and trying to find solutions for these barriers. The inequity in distribution of health personnel is considered as a chronic problem in Yemen, the main reasons for these problems are:

- The absence of clear policy and mechanism for deployment of human resources. MOPH uses the personnel population ratios for planning and not for deployment.
- Absence of remunerative incentives for the staff who work in rural areas.

In order that MOPH can solve the problem of maldistribution of health staff it should consider in the first stage:

- Clear policy and mechanism for planning, deployment of health personnel
- A Listing of understaffed and overstaffed facilities to determine need
- Legislation on hardship incentives, including commitment of availability of accommodations, and other reward like scholarship.

In second stage the MOPH has to:

- Announce about the hardship incentives and the vacancies in health facilities.
- Rationalize the employment and transfer of staff to the health facilities.
- Delegate of employment authority to district level, with some central control, to achieve equity in distribution of health personnel.

Updating the national human resources for health database is required as a planning tool, to assess the distribution of human resources, with establishment of governorates and districts human resources unit that are integrated and linked with national human resource database.

The health sector in Yemen separate management of personnel from planning and production, this separation of different components may have contributed to the way that each has been treated as vertical programs. The recurrent budget has not kept pace with the expansion of staffing and physical infrastructure, the expenditure since 1990 is the same with taking in low account expansion of staffing and infrastructure and cost increase due to inflation. Health staff increased by 50% and number of facilities increased by 20%, resulting to low payment for staff, and low running cost budget for health facilities.

The low payment and low motivation conditions, as well as weakness in management skills and limited authority of the managers on human resources and budget control is other factors that affect on the bad situation of human Resources in Yemen. The absence of supervision and monitoring, lack of accountability principle, and quality management guidelines, weakness in legislation concerning duties and rights of health staff, as well sanctions for malpractice also participate in that frustrated situation.

**Table 7-2 Human Resource Training Institutions for Health**

| Type of Institution | Current | | Planned | | |
|---|---|---|---|---|---|
| | Number of Institutions | Capacity | Number of Institutions | Capacity | Target Year |
| Medical Schools | 9 | 660 | - | - | - |
| Postgraduate training Institutions | 3 | 153 | - | - | - |
| Schools of Dentistry | 6 | 224 | - | - | - |
| Schools of Pharmacy | 5 | 362 | - | - | - |
| Nursing Schools | - | - | - | - | - |
| Others | 2 | 118 | | | |
| | 3 | 650 | | | |
| Midwifery Schools | | 317 | - | - | - |
| Paramedical Training Institutes | 2 | - | - | - | - |
| Schools of Public Health | - | - | - | - | - |

*Capacity is the annual number of graduates in the year 2003-2004 from these institutions.*

### Accreditation, Registration Mechanisms for HR Institutions

Most of Yemeni health cadres are graduates from HMIs and faculties of - medicine in Sana'a and Aden, despite of the shortage in the teaching materials equipment and supplies in those training institutes. There is enormous pressure on those two Universities, due to free education and some times due to political pressure This led to density of students in lecture rooms and in teaching hospitals, where students are more than the patients, and some times students do not find patients for follow-up. This leads to graduate health cadres with low qualification and skills.

There has not been adequate co-ordination between MOPH, health facilities and training institutes because the higher board of education is the responsible national body for registration and accreditation. MOPH should take the lead in the analysis for the labor market need for each category and share information with the HMIs.

The existing curriculum in Universities and HMIs do not take into account the new health policies adopted by MOPH, Health Sector Reform policy decentralization, district health system, PHC, hospital autonomy, cost sharing, community participation, cost effective and efficiency concepts. All these have to be introduced in the curriculum .the training in management and public health have to get more attention in the curriculum.

#### Development of new courses

There is a need to develop short courses, in district health management, planning and community participation for health cadres. These courses with fees can help the training institutions to improve their income, and MOPH can train more staff with low cost than to send them abroad. MoPH has adopted district health system, and the national five-year plan for health involves the construction of new districts hospitals. This will approximately need 540 specialists. Therefore one-year diploma courses should be started again to meet the shortage of specialists in those districts and in the periphery.

University of Sana'a has established nursing courses. It has graduated 254 nurses in five years (1995 -1999) versus 595 pharmacists in the same period.1 33 currently enrolled (1999-2000) versus 1 075, 668 and 708 in medicine pharmacy and laboratory disciplines respectively.

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

Approximately 4000 people have graduated from these training institutes in the period 1995- 2000. The main HMIs train mid level technicians, medical assistants, nurses and midwives. Their branches in the governorates train only nurses and midwives. The graduates grant diploma degree. Amin Nasher HMIs in Aden grant in addition to diploma, bachelor degree in community health and nursing.

The main problems facing the HMIs are:

- The education level of teaching staff in general is low, most of them having diploma certificate
- Budget is very low
- Difficulties in practical training due to hospitals crowded with students from public and private health institutes
- Shortage in equipment and supplies for laboratories, libraries and teaching materials.

Since 1998 the curriculum of health institutes were unified, before that the HMls had two separate curricula for teaching program. Till 2000 eight curricula remain' to be harmonized, including dental assistants, laboratory, pharmacy, anesthesia, x-ray, operating theatre technicians and statistics (MOPH, 2000c) In Amin Nasher HMI, the curriculum is revised every 3-4 years by teaching staff of the institute and representatives from Faculty of Education, Faculty of Medicine, and MOPH (Mahmud and Nadim, 2000). All courses are in English language. Arabic is the study language in the branches of the main HMls. The study period is 2- 3 Years.

The education levels of teaching staff in health institutes in general are low .When they started the training activities, the students who had finished 9 years basic reduction could be admitted to the institutes. However the current admission requirement is 12 years of basic education. While many of teachers are below this level. part time teaching staffs are 48% and full time 52%. Total full time faculty is 414. 60% of them have diploma certificate and 33% bachelor, 5%?

The HMls have branches in all governorates, so there is no problem in planning and admission on the basis of geographical needs in nursing and midwifery. For other specialties that are available in Aden and Sana'a only, places are reserved for each governorate. Aden and Sana'a HMls accept only students that finish secondary school (12 years basic education) the other HMls accept 9 years basic education. The students have to pass the admission examination. For getting bachelor degree in nursing and community health the candidates must have diploma after 12 years basic education in addition to at least three years field experience. Gender issue is not considered in admission policy.

3995 students have graduated from HMls during the period 1995-1999 in different mid-level technical specialties, only 26% of the graduates are female There is Low percentage of female in nursing and medical assistant, forming only 23% & 3% respectively of total graduates. The annual average number of graduate's approximately is 799 students ", the past several years have seen an increase in the intake for all health staff and donor support training of community midwives. Approximately 1500 midwives expect to finish their training in 2001. During the next five years, approximately 8278 students will be graduated from HMls 4835 of whom are expected to be nurses and midwives.

There are five governmental Universities for Medical and Health Sciences. Three privates for profit Universities have begun training in medical field. Aden and Sana'a governmental Universities have graduated medical staff, while the other governmental and private Universities have not yet graduate any students. The main constraints that affect the quality of training was pointed out by (Linster et ai, 2000), they are:

- The teaching staff working in more than one University as part time in addition to their private clinics.
- The number of students admitted to Aden and Sana'a Universities are greater than their capacities
- Shortage in equipment and supplies for laboratories and deficiency in books, references, medical journals, and limited access to information technology.

University of Sana'a trains physicians, pharmacists, dentist, laboratory technicians, and nurses. Aden University trains physicians, pharmacists, and dentists. Master degree programs are now conducted at both Universities. They include public health, community medicine, pediatrics, Obstetric and gynecology, surgery and pathology.

All the Universities accept only students that finish secondary school, scientific section with certain level of score that was obtained in the final exam in secondary school. The

candidate has to pass admission examination. Geographical distribution and Gender are not considered in admission policy of Universities.

The Yemeni Medical Council for Specialization was established by MOPH in 1994 to oversee the training of specialists for Arab Board and to meet the shortage of specialists in the periphery. One-year courses were started in 1994. 403 have qualified with diploma degree in internal medicine, pediatric, obstetrics and gynecology, community medicine, general surgery, ophthalmology, anesthesia and health administration. WHO supported these courses, but the enrolment has been stopped since 2000. Since 1995, 186 doctors have been enrolled in Arab Board training programs including, internal medicine, pediatric, obstetrics and gynecology, community medicine, and general surgery.

## 7.3 Planned reforms

The health sector reform strategy document in Yemen has addressed some strategies concerning human resource such as:

- Freeze new technical training courses in health institutes until human resources need assessment is carried throughout the country except partial training of community midwifery and female PHCW. New courses should target districts taking part in the district management approach.
- Human resource policy will be based on district needs to ensure distribution of qualified medical and technical staff to district level facilities.
- Yemeni physicians and medical specialists will be attracted to work in district Hospitals instead of foreign expatriates, through establishment of new incentives system. Financing for this will come from current budget used to hire expatriates.
- Prioritizing of scholarship for medical staff that has served in district facility.
- Overstaffing of some facilities, especially urban hospital facilities will be dealt with through hospital autonomy system, whereby hospital boards will decide the appropriate staff mix.

Yemen has embraced civil services reform modernization project with support of World Bank. The project aim to streamline the public sector and reduce the size of public sector services, through eliminating duplication and non-essential services; increase participation of private and non-governmental sector; restructure public employment system through development of the management tools, including capacity building, intervention, better job description and Improving the financial management and accounting to ensure efficient use of public fund. Its objectives are to improve administrative and service delivery processes, canceling of dualism in employment and reducing staff numbers. It includes a freeze on gross recruitment into government services. This program is expected to take at least 10 years to cover all ministries including MOPH. The prominent elements of financial reform include restructuring public budget; reduction of current expenditure and increasing investment spending and public expenditure on health and education; gradual lifting of subsidies and reduction of transfers to public sector enterprises. Structural reform of direct and indirect tax systems by expanding the tax base on local production, consumption, and services and implementing a general sales tax system with the objective of increasing public revenues.

# 8 HEALTH SERVICE DELIVERY

## 8.1 Service Delivery Data for Health services

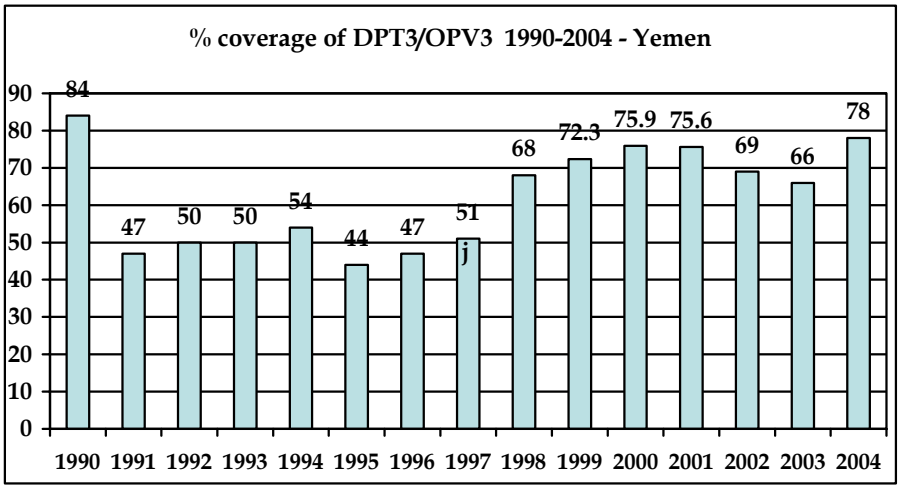
**Table 8-1 Service Delivery Data and Trends**

| TOTAL (percentages) | 1990 | 1995 | 2000 | 2004 |
|---|---|---|---|---|
| Population with access to health services | 45 | 48 | 50 | 52.2 |
| Married women (15-49) using contraceptives | 9.7 | 10 | 21 | 23 |
| Pregnant women attended by trained personnel | 26 | 26 | 34 | 45 |
| Deliveries attended by trained personnel | 12 | 16 | 22 | 27 |
| Infants attended by trained personnel | - | - | - | - |
| Infants immunized with BCG | 78 | 53.7 | 81.5 | 42 |
| Infants immunized with DPT3 | 80 | 39.7 | 75.8 | 66 |
| Infants immunized with Hepatitis B3 | 0 | 0 | 15.1 | 42 |
| Infants fully immunized (measles) | 78 | 42.8 | 71.3 | 66 |
| Population with access to safe drinking water | 52 | 44.5 | 27.12 | 31 |
| Population with adequate excreta disposal facilities | 51 | 12.3 | 12.16 | 23.2 |

| URBAN (percentages) | 1990 | 1995 | 2000 | 2004 |
|---|---|---|---|---|
| Population with access to health services | 68 | - | - | 80 |
| Married women (15-49) using contraceptives | 28 | 28 | 36 | 40.9 |
| Pregnant women attended by trained personnel | 57 | 57 | 61.3 | 69.1 |
| Deliveries attended by trained personnel | 46 | 46 | 46.9 | 40.5 |
| Infants attended by trained personnel | - | - | - | - |
| Infants immunized with BCG | 81.3 | 81.8 | - | - |
| Infants immunized with DPT3 | 68.1 | 70.8 | - | - |
| Infants immunized with Hepatitis B3 | 0 | 0 | - | - |
| Infants fully immunized (measles) | 70.3 | 71.9 | - | - |
| Population with access to safe drinking water | 61 | 74 | 65 | 52.4 |
| Population with adequate excreta disposal facilities | 23 | 40 | 33 | 43.9 |

| RURAL (percentages) | 1990 | 1995 | 2000 | 2004 |
|---|---|---|---|---|
| Population with access to health services | 32 | - | - | 25 |
| Married women (15-49) using contraceptives | 5.7 | 5.7 | 18.5 | 17.7 |
| Pregnant women attended by trained personnel | 20 | 20 | 27 | 38.4 |
| Deliveries attended by trained personnel | 10 | 10 | 14.3 | 17.8 |
| Infants attended by trained personnel | - | - | - | - |
| Infants immunized with BCG | 54.7 | 45.1 | - | - |
| Infants immunized with DPT3 | 40.2 | 30.2 | - | - |
| Infants immunized with Hepatitis B3 | 0 | 0 | - | - |
| Infants fully immunized (measles) | 55 | 33.8 | - | - |
| Population with access to safe drinking water | 12<br>55 | 14 | 59 | 9.6 |
| Population with adequate excreta disposal facilities | 30 | 11<br>14 | 24 | 2.5 |

*Source:* YDMCHS 94&97.
FHS2004
CSO




The MOPH&P have a planning department at which all the infrastructure (public), the five-year plan and the investment plan. Then each department prepares their plan annually. The MOPH&P depends on the big surveys in getting the information needed for priority settings and needs assessment (only about the physical condition space and utilization. there is anther department responsible for supplies and maintenance.

The health service delivery system is characterized by the lack of planning norms and standards the investment projects are not based on needs and there is a disconnect between investment and recurrent expenditures which is compounded by the lack of maintenance and supplies. Additionally, there are wide regional variations in

infrastructure distribution. Although expenditures on construction and equipping of health facilities have been a major part of the MoPHP budget for the past decade, there has never been a detailed, comprehensive plan that identifies the needs in different areas of the country, and that attempts to match available resources with those needs in a deliberate way. Excessive spending on construction of new facilities, and on furnishing and equipping them, have resulted in the prospect that more facilities will exist than can be operated given the approved recurrent budget (even if it were completely spent) nor given the need for trained staff that do not exist (and could not be employed even if they did).

There are four major sources of funds for government health investment spending: the Central MoPHP budget, governorate health budgets, the Social Fund for Development (SFD), and the Public Works Department (PWD). The first two are in a combined MoPHP budget, but the responsibility for execution of the projects is divided between the center and the governorates and districts. The SFD and the PWD have budgets that are independent of that of the MoPHP and of that of each other. All four of these sources channel foreign assistance funds to one degree or another.

The budget data do not provide information on the status of these investment projects with respect to their start dates or project completion dates, in fact, means that an existing facility was only receiving new furniture and/or equipment, or may just be adding rooms or a wing. It is possible to distinguish, by number, the facilities that represent new construction (not necessarily free-standing facilities) and those that represent rehabilitation of existing buildings. It is probably fair to say; however, that the large number of facilities in the “Governorate Health represent mostly new projects because governorates have only recently received authority to administer such investments independently of Central MoPHP after decentralization took effect in 2001.

## Access and Coverage:

The quality of existing services is poor, particularly in the public sector, and this contributes to the country’s poor health outcomes. The reasons for poor quality include: (i) poor management, both at the central and facility levels; (ii) the lack of inputs for providing services (e.g., unavailability of drugs and medical supplies); (iii) the lack of regulation, standards, and protocols; (iv) poor maintenance of facilities and equipment; (v) the lack of coordination among the levels of care; and (vi) poor human resources management (e.g., distribution of staff not based on need, low morale as a result of salary and wage pressures).

Quality of care is generally poor in public facilities, although there have been demonstrable improvements in facilities when proper management systems have been put in place. The quality of services provided by NGOs is generally better than that of the public sector, while care provided in private facilities ranges from quite good to poor. That there is such demand for private services reflects the Government’s inability to meet needs through public services.

### Access to primary care:

There is inequity in both physical and financial access to health services. Physical access is limited - half of the population, particularly those living in the rural areas, has access to basic health services. Inequity in financial access arises from the fact that the availability of health services generally corresponds with the ability to make cash payments. These payments are both direct (cost sharing in public and fee- for-service in private facilities) and indirect (e.g., transportation). Access to care will be hindered if a patient does not have adequate financial resources to shoulder the cost of care. There are also social

limitations that hinder access to services. In traditional communities, it may be difficult for r women to seek care if the service provider is not female or if she does not have an escort.

**Access to secondary care:**

Because there is no well-established referral system there is no G.B. gate-keeping role, and any patient can have a direct access to the chosen's specialist services from the start. The public health care system is structured in three tiers: Health units HU, health centers HC and rural or district hospitals. Since the unification, the public health infrastructure has been substantially expanded, in particular the number of HU doubled. Still, as mentioned above, the regional imbalance between Eastern & Northern governorates (0.7 HU per 10,000 population) and Southern regions (1.6 HU per 10,000 populations) is prevailing. Only 50 % of the total population and 30 % of the rural population has access to public health services. Other sources (GTZ) came to similar estimates: 80 % of urban population and 25 % of rural population have access to health services, while 74 % of population is living in rural settlements, many of them spread over large territory with insufficient accessibility.

## 8.2 Package of Services for Health Care

The essential package of health services, also called Essential Service Package (ESP), to be delivered in the District Health System (DHS) in Yemen. Both the ESP and the DHS are important components of the wider Health Sector Reform (HSR) effort of the Ministry of Public Health and Population (MoPH&P), which started in 1998. The DHS has been adopted in 2002 as the vehicle to deliver comprehensive Primary Health Care (PHC) services in Yemen. These services include community-based health services and services provided through mobile clinics, Health Units, Health Centers and District Hospitals.

However, standardization of these services has been insufficient throughout the country. In order to overcome this problem the MoPHP developed and launched in early 2003 a first draft of a standard ESP, which was entitled “National Model of Primary Health Care Services Package”. IT includes standards for most inputs (staff, drugs, equipment, infrastructure), processes (management guidelines) and outputs (health services) of the DHS at all three levels (Health Unit, Health Centre, and District Hospital) of service provision.

The District Health System is based on three levels of health facilities, which are the Health Unit, Health Centre and the District Hospital. Two higher levels of health care provision (Governorate Hospital, Central Hospital) function as referral levels for the DHS. Each health facility in the DHS is supposed to be managed by a Health Facility Committee (HFC). Community-based health services and services provided through mobile clinics are usually linked to a health facility.

A District Health Management Team (DHMT) manages the DHS as a whole, which is located at the District Health Office (DHO). The DHMT receives support and supervision from the Governorate Health Office (GHO). Mandatory community participation in the DHS is exercised through community representatives in the HFCs and through defined working relations of the DHMT with the Local Council in the district. The HSR and the DHS were launched to address the well-known failures of the formerly highly centralized national health system. The reforms focused on improved management systems, decentralization of management functions to the level of the district, and cost sharing by health services users. The long-term objectives of the HSR were set as follows:

- Adequate/universal access to health care services
- Equity in both the delivery and eventually the financing of health care
- Improved allocative and technical efficiency of the service delivery system
- Improved quality of health services
- The system's long-run financial sustainability

As regards the provision of health service in the DHS, the Ministry continues to adhere to the concept of "Primary Health Care" (PHC) as defined by the Alma Ata Conference in 1978. But after having implemented primary health care during the last 25 years with only partial success, a need for better prioritization of essential services and a greater focus improved management and cost-efficiency has become apparent.

This lead to the adoption of the concept of the ESP, which promises support the overall goals of the HSR by means of achieving the following:

- Clear definition and standardization of input standards
- Clear description and standardization of the health services to be provided
- Establishment of management guidelines

Definition of these standards and procedures has the potential to make significant steps towards the following:

- Improved overall management of health services
- More efficient use of limited resources / inputs
- Better prioritization of health services
- More rational allocation of limited sources to the different components of the DHS
- Improved quality assurance of health services
- Improved health service delivery to the target population
- Improved accountability of the health service providers to their clients

The set of norms and standards listed in the ESP document aims to be comprehensive enough to be used:

- By local staff to help assess and improve their own performance and that of their health facility
- By communities who are able to see the range and quality of district health services to which they are entitled
- As planning guidelines by district and Governorate health planners to help assess the unmet needs of their population and draw up plans to bring services up to national standards
- By higher levels of the Ministry (Governorate, Central) to guide resource allocation

This wide range of uses requires the document to be available in different formats and selecting particular sections. Once this core document is published, it will be widely distributed to all stakeholders. Components can for example be adapted for use as checklists for local staff. Not every function of the various health facilities has been fully documented in this document e.g. environmental health and waste disposal, support services like mortuaries, catering services, maintenance services, etc.

## 8.3 Primary Health Care

Although the number of PHC units and centers has grown, the present network still suffers from regional maldistribution and deficiencies in the services that are provided. One of the factors that have led to this situation is the rugged terrain and geographic dispersion of people. Coupled with this, are administrative and management weakness; a strong urban bias of government employees working in the health sector; insufficient community participation and inadequate supplies of medicines and equipment. Access to public health facilities remains limited. Overall, it is estimated that about 5 percent of the population live within reach of health services; access is higher in urban areas and lower in rural areas. These averages mask even larger regional variations reflecting a population that is widely scattered in some 33,000 villages and towns. A rough approximation of regional inequalities can be obtained if the number of PHC units and centers in each governorate is related to the number of communities tow moreover, there is little understanding of the benefits and need for preventive and promotive health care which should be a major focus of PHC this includes:

- Educating people about local health problems;
- Adequate nutrition, supply of safe water and basic sanitation;
- Immunization against major infectious diseases;
- Prevention and control of endemic diseases;
- Maternal and child health care and family planning;
- Initial treatment of sick and injured patients;
- Promotion of mental health;
- Dispensing essential drugs.

In many cases, however, some of these services are unavailable or their quality is less than satisfactory. The 1998 survey by MOPH shows that more than 90 percent of existing PHC facilities offer curative services and some 70 percent are able to perform vaccinations, but only about 20 percent of them provide MCH care. Actual utilization rates are even lower. Access to health services and their utilization, therefore, is not a simple concept. It implies not only that the facilities exist, but that people have the information they need to use them properly; that the PHC units or centers can be reached by patients; that supplies and equipment are adequate; and that services are provided in a manner acceptable to the local population. Equally important is the presence of qualified health personnel, especially female nurses and midwives.

Infrastructure for Primary Health Care determines health policies based on PHC and aiming to:

- Provide health care for all people;
- Develop health services at all level. And In all regions of the country;
- Prepare and issue health legislation, regulations and instructions;
- Develop and train health personnel; and
- Organize and enhance participation of communities and other sectors in the development of health services.

Other functions include support for health research, establishing technical standards for health professionals and facilities, and coordinating environmental health programs.

## Settings and models of provision

The health system in Yemen now consists of a large public sector, which is organized at three levels. The First Line Health Service (FLHS) at village level performs preventive and promotive care. PHC worker or medical assistant together with nurse or midwife runs this unit which serves 3000-5000 Inhabitants. The units are backed by PHC centre normally that is run by physician, nurse or midwife and technicians. A PHC centre serves 5000-15000 inhabitants at the first referral level there are district and governorate hospitals. Some governorate hospitals perform general and specializes services according to their capabilities and availability of qualified health staff like Hadramout, Taiz, and Hodeida governorates. The tertiary level provides specialized and teaching services, as the service is concentrated in the cities of Sana'a and Aden.

## Public/private, modern/traditional balance of provision

**Public Sector:**

| Type of Care | Geographical Area / Population | Type of Facility |
|---|---|---|
| Primary Health Care | Hamlet | Community supported Female health worker – Murshada |
| | A group of hamlets (Population: up to 1000) | Community shared Temporary Health Unit |
| | A cluster of villages (Population up to 5000) | Fixed Health Unit |
| | Population up to 10,000 | Health Centre |

**Community Based Health Services (CBHS):** In the CBHS, community based health workers (murshadat) such as trained traditional birth attendants, community educators or contact mothers for MCH/FP will extend the work of the facility based staff, who are unable to reach all households in their catchment's area with promotive and preventive services. All these workers, chosen by the community, will be volunteers and women. The community-based distributor of contraceptives will make some profit by selling the contraceptives. These health workers will be trained to assist in promotive and preventive aspects of health care, first aid and some curative services for minor ailments. The communities will support these workers. They could make some profit as the drugs would be made available to them through the essential drug cost recovery program.

**Health Units in the rural areas:** The health units in the rural areas would be of two types:

- **Temporary Health Units** are located in small villages with a population of 500-750. A health guide and a health support person staff these. There are currently 711 such centers. Community is required to build these centers or provide space while the MOPH provides equipment, some construction, and 50% operating costs. The community and MOPH share cost on 50: 50 bases.
- **Fixed Health Units** are located in a cluster of villages with a population up to 5000. There are at present 1149 such centers with each having four staff members: one community midwife, one medical assistant, and two health guides. All investment and

operating costs of these centers is provided by the MOPH. All health units would have no beds. The services provided by these centers include:

(a) Child Health:
- Immunization;
- Care of ARI, diarrhea, malaria, anemia, and malnutrition; and

(b) Women Health:
- Care of anemia and malnutrition;
- Antenatal care including TT immunization;
- Postnatal care; and
- Family Planning.

Health Centers in rural areas provide PHC coverage to about 10,000 persons. There are currently 489 health centers in the rural areas. Each health centre is staffed by 2 General Practitioners, 3 nurses (2 practical nurses and an assistant nurse), 2 medical assistants, 1 laboratory, 1 Pharmacist, 1 X-Ray, 1 Statistics, and 1 Public Health Technician besides 1 health guide. With the presence of doctors, nurses, and medical assistants there appears to be no need for the health guide at the health centre. The services offered at the Health Centre include:

- Referral from Health Units for doctor's advise;
- Essential emergent care for trauma and medical emergencies reporting to the Centre;
- Immunization of infants and women in the reproductive age;
- Control of diarrhoeal diseases, care of ARI, malaria and malnutrition;
- Conduction of deliveries;
- Some emergent live saving procedures like: manual removal of placenta, life threatening D&C;
- Laboratory services especially for Hb, MP, AFB, pregnancy test and blood group;
- Radiology services for simple investigations, especially bones and chest;
- Health education

## Primary care delivery settings and principal providers of services

There is no change in the PHC delivery setting, but the MOPH is going to implement the HSP Package and the training of the health personnel has been started. During the last 10 years there was rapid expansion of the network of facilities providing care. In 1995 the number of PHC units were 927, while in 2004 they become 2185. The health centers were 97 with beds and 278 without beds, later increased to 24 and 487 respectively (the HC reduced in number because most of them upgraded to a rural hospitals).

There were only two MCH centers in 1995 that hugely expanded to 380 in 2004. Beside the expansion in the public sector there is a huge expansion in the private sector. In the private sector, there are 85 hospitals, 542 polyclinics, 38 health centers, 70 laboratories, 1249 clinics, 615 foreign doctors, 310 foreign technicians, and x ray clinics. Quite a large number of these private facilities are concentrated in Sana'a city. In the private sector, 40% of hospitals, 74% of health centers, 96% of clinics, 28% of foreign doctors, 15% of foreign laboratory technicians and 80% of X-Ray clinics are in Sana'a city. While most of the private sector facilities are located in large urban areas, dispensaries and technicians appear to be more spread out than other facilities. The current number and type of facilities in the private sector, appear in Annexure 3.

The data presented in Annexure 3 is considered to be partial for clinics and hospital beds. The private sector is expected to bigger than the data presented. There are several private clinics that are not included in the available information. Nearly all the doctors in the public sector are doing private practice to make a living, as their salaries are too small to have a livelihood. About 615 doctors and 309 technicians are foreigners working in the private sector. Rest is all reported to be Yemenis. Doctors working in the public sector largely run clinics. Yemenis staff hospitals, health centers, and laboratories in the private sector. There are several non-government organizations providing health care. From the household survey, 75% of health expenditure is out-of-pocket.

## Public sector: Package of Services at PHC facilities

### Health Unit and Health Centre

Since the tasks of the Health Unit (HU) and the Health Centre (HC) overlap (i.e. all services provided by the HU are also provided by the HU) they are described together in the following section, which provides a detailed description of each service according to the level of the facility.

The following preventive and curative services are to be provided by Health Units and Health Centers:

- Child health: IMCI
- Women's reproductive health:
  - FP, ANC, safe delivery, post-natal care, STDS
- Management of communicable diseases:
  - TB / DOTS, Leprosy, Malaria, Bilharziasis / Helminthiasis, Hepatitis
- Management of non-communicable diseases:
  - Hypertension, Diabetes
- Primary eye care
- Skin infection management
- Medical & surgical emergencies:
  - Injuries (accidents, bullets), Animal bites, Shocks, Burns, Acute Abdomen
- Minor surgery: Circumcision, Abscess incision / drainage

The standards described here apply to health services delivered at the health facility as well as to community based health services supervised by the health facility and outreach activities carried out by the health facility. Health education services to be provided by the health facility are listed with each service they refer to, not as an independent activity. Laboratory services to be provided at the HC and more advanced diagnostic services (e.g. x-ray) are not considered part of the ESP for the HC level.

## Private sector: range of services, trends

There is no detailed information about the privet sector but recently the health sector reform unit is preparing to conduct a large-scale survey of privet sector.

## Referral systems and their performance

No proper referral system is available until now. Secondary and tertiary hospitals are called referral facilities as they take care of medical problems and patients referred to them by the next lower level of health care. This arrangement ensures that each part of the referral chain performs first and foremost the functions for which it is intended,

bearing in mind that as far as possible health interventions should take place at the PHC level. Following these procedures avoids overloading of the referral institutions with patients who could be looked after in PHC units or centers. In addition, transportation of patients to and from referral services has to be organized. At present, this is not always the case and there is need to strengthen and streamline the referral chain. By implication, it also requires upgrading of PHC facilities so that they can perform the full range of services for which they are designed. Otherwise, the unnecessary spillover of patients to the secondary level will continue and some of the PEC functions will be pushed to district and governorate hospitals. Responsibilities for different levels of health care will have to be clearly defined, and more attention needs to be given to effective feedback.

### Utilization: patterns and trends

However, inaccessibility is only one of the factors contributing to poor utilization of public health services. Low quality of service perceived by the users, unavailability of drugs and poor dysfunctional infrastructure of the health facility, the no affordability and the poor performance of personnel result in 0.2 patients - public health services contacts per capita and year, compared to the international standard of 1.0 in low income countries. Only 22 % of births in urban areas are assisted by skilled health staff and even less, 14 %, in rural areas.

### Current issues/concerns with primary care services

The MDG Report shows a negative trend on account of Malaria, with the prevalence rate actually rising over the period from 1990 to 2000, to reach 35% of the population, while the MDG goal is to have it reduced to only 3% by 2015. A similar trend is also seen for TB cases. The general problems of the health care system noted above can largely explain this deficient performance. On the positive front, there has been some remarkable reduction in such contagious disease as measles and Polio, though in the latter case, there was a recent resurgence of the disease imported from Africa.

The 'Expanded Program on Immunization' falls under the PHC sector among other vertical programs such as Malaria, Tuberculosis, Integrated Maternal & Childhood Illnesses, HIV/AIDS, etc. Provision of immunization services on the service level is conducted by the public health facilities free of charge.

### Planned reforms to delivery of primary care services

The health service package will be implemented. The training workshops are in the process.

## 8.4 Non personal Services: Preventive/Promotive Care

### Availability and accessibility:

Since only 62% of the urban and 34% of the rural population have access to an improved water source, it is clear that around 60% of the population is denied access to improved water. This particularly acute rights violation in the rural areas essentially means that the state party in Yemen is not able to meet its obligation to ensure access to clean water to all of its citizens.

Unavailability of fresh water sources, unplanned use of existing ones, population dispersion, inability of the state to plan and implement disciplined use of water aquifers

and lack of community awareness and well functioning public institutions make it difficult for the government as the principal duty bearer to ensure universal access to clean water. Lack of community awareness of appropriate technology and hygiene practices constrain the ability of claim holders to enjoy their rights.

Geographical accessibility was difficult in nearly one third of health facilities, which were not located in the natural centre of the catchments area they were intended to serve. Non-affordability was found to be the main barrier to access, with the poor frequently resorting to coping strategies. 83% of the poor said they would forgo treatment for themselves or a close relative and only seek advice from family members or neighbors. Others sought treatment from herbalists or traditional healers, borrowed money, sold assets or sought donations from social networks. Although the poor people tended to resort more often to coping strategies, a prolonged or severe illness often triggered a relapse into poverty among the better off, indicating vulnerability in the face of catastrophic illness in rural areas.

Discrimination by health staff (according to both ability to pay and social status of the patients) was a significant barrier to access, often perceived as bad attitude. Discrimination was particularly acute in the treatment of the Akhdam minority who were deterred from using health facilities by feelings of inferiority and the negative attitude of staff.

### Acceptability:

There is lack of accessibility to facilities for most of the population. In rural areas, only 24% of the people have access to government facilities, and in all areas, about 42% of the people have access. Lack of access due to limited geographic coverage is compounded to some extent by lack of access due to need for cash payments required to receive care. The indirect costs of transportation to facilities are added to the direct costs of paying the fees required for consultations and/or prescription drugs. Access to needed care for women is also limited by social constraints in traditional areas—their need for male escorts to facilities and their need to be seen by women health workers, who are not readily available at health facilities in most of the country.

### Environmental health

There is a new ministry called ministry of water and environmental health, which had a cooperation relations with the MOP&P. Civil ministry, is responsible for sanitation and food safety.

### Health education/promotion

Health education is provided through tow channels of communications mass comm. And interpersonal communication. Mass communications used by NGOs and donor supported national programs which are often geographically limited NGOs have played a very significant role in providing out reached programs and mobilizing resources for health education programs .the officially adopted strategies of mass comm. Is relatively important only at the knowledge stage, the inter personal channels that are secondly adopted strategies have more impact at the persuasion stage in the adoption of anew behavior. National center for health education and information is the main body responsible for health education messages and materials at the national level. The role of private sector in health education is limited to the social mobilization when a health problem arises.

## Current key issues and concerns

Yemen is at an early stage of its epidemiological transition, which means that communicable diseases continue to be prevalent. For example, malaria, which has been successfully eradicated in most countries, continues to cause about 1.5 million cases of illness and 15,000 deaths per year. The health services provided by the public sector are mostly focused on curative and hospital based health services. The MOPH primary care services lack adequate resources, particularly public health programs. The MOPH does have a number of public health programs, although their effectiveness is questionable. For example, Integrated Management of Childhood Illness (IMCI) is underway to address childhood illnesses. However, reliable governorate- level data to track trends are not available, and the basic inputs to address childhood illness, such as oral rehydration salts for diarrhea, are in short supply. The health services are characterized by the lack of continuity of care, for example there is no formal referral system or integration between different services at different levels. The quality of health services is poor in both public and private sector. There is more focus on curative rather than more cost-effective primary care services by the MOPH. Finally, the weakness of the public health programs exemplified by the lack of the basic data needed for program planning such as prevalence, regional variation, and epidemiological trend; lack of national control strategy and coordination; delayed response to outbreaks and epidemics; poor case management; and lack of supplies. Strengthening the public health programs is a major concern and constitutes a priority in reforming the health sector.

In a study conducted in four governorates it was found that

- Out of 84 deliveries in the sample, 25% took place in a health facility and 75% at home. There is an urban-rural divide in both delivering in a health facility (40% vs. 19%) and in attendance by a qualified person (72% vs. 36%). In rural households TBAs conduct 44% of the deliveries, and neighbors or family conduct 35%.
- Of the 21 deliveries in a health facility 19 took place in a hospital, 1 in a private clinic and one in a health center. Most (17 of 21) facility-based deliveries were conducted by a doctor. The average cost of delivering in a hospital is $80.87, followed by delivering at home conducted by a midwife with $18.91. A delivery conduced by a TBA at home costs $8.20, while respondents paid nothing for a home delivery conducted by a family member or a neighbor.
- Only 46% of women, who delivered during the last 12 months, ever attended antenatal care. There was no clear preference for seeking antenatal care in hospitals, health centers or private clinics. The average cost of $2.07 seems reasonable and goes against the perception that antenatal care is expensive by a large group of the respondents.
- The couple protection rate in this survey was 10.8% and there was no difference in the use of family planning among the four socio-economic groups. The couple protection rate in the urban households was higher than rural households (15.1% vs. 8.6%). Despite the low couple protection rate, a majority of 77% of respondents thinks that family planning is important. Reasons provided for its importance were that “it is better for the health of mother and child” (46%), “we lack the economic means to educate our children” (42%), while 70% would simply say that “birth spacing is important”.
- Potential unmet demand for family planning was 39% due to the fear for side effects (24%); religious reasons or taboos (12%); and respondents who did not know how to obtain family planning (3%). 16% of the respondents had NEVER heard about family planning. TV and radio were the main source of information about family planning,

but according to the respondents health workers did also play an important role in family planning promotion. A particularly low number of respondents had heard about family planning in school.

- One third of the respondents had no idea what HIV/AIDS means. 10% of the respondents said that it is better not to have unprotected sex and only 2% said that it is important to use condoms; 41% of the respondents had ever heard about condoms, and 80% of the respondents thought that condoms are NOT important. When asked, "Why condoms are not important" most respondents would simply say that "they were not interested". Another large group of 32% would fail to answer the question through embarrassment or simply say "I do not know". For 12% of the respondents religious taboos play a role, while a few respondents said that condoms favors "unfaithful behavior". Only 8% of the survey sample said condoms are important to avoid disease, but in Aden this was 24%.
- The use of bed nets for the prevention of malaria in the study is very low with 10% of households having at least one net. Furthermore, even if bed nets are utilized, they are not impregnated and are not available in sufficient quantity in the household. The situation in the Hudeida Governorate is particularly worrying considering the high incidence of malaria episodes. There are also other factors, which make the use of bed nets difficult, e.g. children go to bed late, and many people sleep on the ground and not in beds.
- Sixty-six percent of the 79 children under-one in the sample were fully immunized. Three quarters of those who did not immunize their child said the health facility was considered "too far". Only three children were immunized at an outreach post, and combining this with the fact that many households claim that the health facility is too far it seems that health facilities make too little use of mobile outreach strategies.
- Infectious diseases constituted 72% of the disease episodes and the non-infectious diseases 18%. Of the non-infectious diseases, cerebro-vascular accidents or stroke seem to be common and several doctors linked this to the hypertensive effects of qat. Road accidents are the main cause of death in hospitals and represent approximately 30% of the hospital load. The next most important causes of mortality are cardiovascular problems and cerebro-vascular accidents – and then come gunshots.

## 8.5 Secondary/Tertiary Care

**Table 8-2 Inpatient use and performance**

| | 1990 | 1995 | 2000 | 2004 |
|---|---|---|---|---|
| Hospital Beds/1,000 | 0.8552 | 0.7706 | 0.5219 | 0.6457<br>1.183* |
| Admissions/100 | - | - | - | - |
| Average LOS (days) | - | - | - | - |
| Occupancy Rate (%) | - | - | - | - |

*Source:* CSO 2003

*Note: This figure calculated in addition to the private sector, military and police hospitals beds (statistical year book 2004). T*he needed data to calculate these indicators are not complete.*

## Public/private distribution of hospital beds

The total number of public hospitals in 2004 was 172 (43 governmental, and 129 rural). There are 93 private hospitals (in 2004) three of them are not for profit. The total numbers of beds (including private police and military hospitals) are 23350 beds, 12734 are in the public sector.

As hospitals are located mainly in urban areas and receive much more budgetary support from the government than the PHC system. They are therefore better equipped and staffed than PHC facilities. Not surprisingly, patients who are within reach of a hospital prefer to go directly to it without first consulting a PHC facility. As a result, the majority of hospital patients are self-referred and most of them require only routine care. This has led to serve over-crowding of hospitals, stretching their resources and eroding the quality of their services.

The role of the private sector in providing health care services has grown dramatically in recent years. From 1991 to 1996, the number of private health centers with beds has risen from 60 to 348, and that of private hospitals from 4 to 43. This rapid expansion was driven by market forces and by legislation encouraging domestic and foreign investment in the health sector. If distance and cost would not play a role 64% of the respondents prefer to be treated in private sector health facilities, while 32% prefer government health facilities. When asked to provide reasons the respondents said that private health facilities had a better-perceived quality, faster treatment and better equipment. Most respondents go to a government health facility for reasons of convenience such as that the facility is “nearby” or that they “know the staff”. Most respondents go to private health facilities due to the better perceived-quality. In particular there is a large difference concerning the perceived respectful attitude of health workers. Only 41% of the respondents think that government health workers are respectful against 85% in the private sector. The perception of the availability of drugs in both public and private health facilities is below 50%, but particularly low in government health facilities with only 16%. Long waiting time is another quality issue with only 16% of respondents thinking that the waiting time in government health facilities is reasonable.

The private sector provides a full range of diagnostic and curative services in offices, clinics, hospitals and laboratories. Preventive and promotive health care, on the other hand, is mostly left to the public sector. Private health services are generally of acceptable quality, and few are of poor quality. Some offices and inpatient facilities are equipped with modern diagnostic tools and patients are treated with up-to-date procedures. The private sector operates on a commercial basis, and is therefore much more expensive to the patient than public health care. A recent UNICEF study covering four governorates found that the cost of private health services is about five to ten times higher than the cost of similar services in public facilities.

## Key issues and concerns in Secondary/Tertiary care

Primary health care is being supported by secondary and tertiary health care facilities. They include rural, district and governorate hospitals (secondary level) and specialized hospitals located in major urban centers (tertiary level). These referral facilities employ more highly trained staff capable of dealing with a progressively wider range of specialized medical interventions that require more sophisticated technology than can be provided at the PHC level.

**Secondary Health Care:** In 1992, Yemen had more than 80 rural, district and governorate hospitals. Although they differ in size, with a capacity ranging from 20 to 100

beds, their functions are basically the same: they provide the first line of support to PHC facilities. More specifically, they treat patients that cannot be properly cared for at the PHC level; offer better diagnostic facilities and specialized health interventions in obstetrics and gynecology, pediatrics, general medicine and surgery; and follow up cases that have been treated and discharged. In addition, secondary health facilities provide training and guidance to PHC workers; visit community health facilities offering advice and training to staff; organize logistical support and supply systems; and help medical students gain field experience.

**Tertiary Health Care:** The specialized hospitals form the top in the pyramid of public health care. They deal with the more difficult health problems that cannot be treated at the secondary level and are staffed with highly qualified personnel who have sophisticated diagnostic and curative facilities at their disposal. In Sana'a and Aden, tertiary hospitals also serve as training institutions for medical students (teaching hospitals). At this point, however, the tertiary hospitals in Yemen are not yet equipped to treat all medical cases that are referred to them. Some patients therefore have to go abroad to seek specialized treatment. There are no patient safety agencies but there is a higher medical council in the ministry, which is not activated yet. This is responsible also for health personnel licensing and punishment. There is no law permitting direct –to – consumer advertising of drugs, medical devices or doctors services.

## 8.6 Long-Term Care

There is no long-term care services department in the MOPH&P and the present service is provided by an international NGO for handicapped children (mentally retarded) the central prison have department for homeless psychotic patients.

All the mentally retarded children are resident in the charity NGO. All the homeless psychotic patients stay inside the prison until declared normal or their family takes them home. There is no coordination with social services and assessment of those services not done.

## 8.7 Pharmaceuticals

### Essential drugs list: by level of care

See Annex

### Manufacture of Medicines and Vaccines

There is no manufacturer of vaccines in Yemen. About the medicine manufacture there is a drug factory and 565 drug companies.

### Regulatory Authority: Systems for Registration, Licensing, Surveillance, quality control, pricing

The current system requires an improvisation in the aspects of administration, tenders, procurement, system of storage, distribution, provision, controlling of stores, system of accountancy, auditing, apparatuses, equipment, spare parts starting from the processes of purchasing and passing through storage there of ending in a fair distribution on the mean time.

**The national drug policy strategies:**

- Estimation for the requirements of primary substances, drugs, and supplies on the local and national level together with simplifying and interacting the procedures of getting the drugs to ensure the availability of hard currency, exploiting all the seaports, and air ports to increase the efficiency of distributing the imported drugs with adherence to application of the procedures of controlling the stores, distribution and employment of the drugs.
- Development toward decentralization in the processes of provision through awarding more authorizations to the local administrations in relation with specifying the requirements, distribution of drugs, other medical appliances, expansion of the possibility of storage ( in accordance to the measurements of storage agreed upon), distribution on the district, Governorates level and renewing the maintenance of the stores.
- Adoption and application of the primary by-law of medicines, specifying a sound description of the drugs, interacting the laws to control the processes of smuggling of drugs to the country.
- Development and implementation of training programs during the service aiming at improvising the performance of the employees to raise their efficiency in the field of provision and developing their job performance.
- Improvisation and development of the system of transport and shipment to ensure the processes of provision for basic medicines and appliances regularly and on time particularly for the health units and centers in the rural and remote districts.
- Development of a complete program to maintenance of the stock of the Ministry of health of which this program should include inspection, periodical protective checking on the equipment, apparatuses, buildings, means of transport, furniture and else. The program should also include training and qualifying the specialized cadres on the maintenance, periodical checking on the machines, spare parts, and maintenance appliances. The companies importing apparatuses and other appliances should there on open workshops in the big cities for the maintenance and fixing of these apparatuses and training the national and human force that deal with them taking into consideration that the buildings that have been established and implemented by foreign donators shall represent a problem in this regard for they had not left behind them the designs and maps of the sewerage, electricity and water supply network to deal with them on sound basis.
- Encouraging the private sector to invest in manufacturing, producing the basic medicines, equipment, and appliances particularly those used on a large scale and they should be under the surveillance and direct supervision by the Ministry of Health.
- Employing the special provisions of drugs to establish a drug fund for circulation of them and this depends on the principle of regaining the cost which we have commenced it presently within an independent unit provided that selling of the imported drugs should be according to the cost price added to it 10% except those basic medicines of the health units, centers and remedies of some diseases such as: cancer, kidney, diabetic, and else.
- The Ministry of Health endeavoring to improvise health services in the health sectors in relation with practices and provision of drugs and the Ministry shall initially secure the provision of those drugs easily and effectively with availability of cost meanwhile working on improvising the skills on all care levels.
- It is preferable to study the possibility of the private sector in undertaking the process of transport, provision of drugs and its value to the Ministry of Health.

### Systems for procurement, supply, distribution:

The MOPH has taken a number of steps to introduce an efficient essential drug program to make available essential drugs through government health facilities at competitive costs. The Drug Fund by International Competitive Bidding (ICB) purchases the drugs. This was possible due to the staff paid their salaries at market prices. No procurement agent is involved. Usually 5-7% handling charges are paid to procurement agents even when these are UN agencies like WHO, UNICEF, and UNFPA. The Drug Fund management is currently spending less than 5% of the cost of the drugs purchased but some of the overheads are not counted as the Fund is using the space provided by the MOPH and the Fund is currently not paying the utility bills.

The Drug Fund has established one central store in Sana'a and four regional stores in the selected governorates in the country. The successful bidders supply drugs to the Central and Regional stores. From the Regional stores the drugs are supplied by the transport maintained at the stores. However, Nitrous Oxide and Intravenous Fluids are supplied to the service delivery points by the successful bidders. There are plans to establish drug store at all governorates and some selected districts. Currently, the districts maintain stores for the primary health care facilities at the district and distribute the drugs through the staff visiting the district facility. Recently, supplies were sent to a remote eastern part of the country by e new Mercedes vehicle whose two tires were completely damaged besides some other damages to the vehicle. The supplies reached after several days. It would be uneconomical to build new stores and develop the drug distribution system in the public sector. The bid invitation should include the ultimate destinations for the supply of drugs to the facilities and Regional and Central stores should be maintained as reserve stores. The movement of goods from these stores to facilities should be contracted to the private sector, which would in the long run be economical and efficient than the public sector. Initially, this should be tried on experimental basis and after proper appraisal introduced for the movement of goods.

The MOPH does not release the drug budget to facilities but upon confirmation of the supply of drugs by the facilities is released to the Drug Fund, which has expressed concern in delays in such releases. The EDL drugs are supplied to the patients at cost plus 10%. However, drugs for renal and cancer treatment, diabetes, asthma and epilepsy are supplied free of cost to patients. The cost realized is kept at the facility or governorate level and makes them eligible for additional supplies of medicines for the amount collected from the patients. Since the introduction of the EDL and ICB the availability of medicines has vastly improved at the facility. This is confirmed by field visits to some of the PHC facilities. The number of patients has not declined since the introduction of the cost recovery of medicines.

## Reforms over the last 10 years

- The new program of national drug fund replaces the revolving drug fund.
- Training in the problem based pharmacotherapy learning in universities and HIMs.

## Current issues and concerns

In Yemen, as in many other countries, people measure the quality of health services by the possibility of obtaining essential drugs through them. The Yemeni health system has, in recent years, delivered very poor health services in this respect, one of the main problems being the poorly functioning logistics and supply system for essential drugs as well as for medical supplies. In recognition of this, the MoPH has taken a number of steps to initiate an efficient and acceptable essential drugs program, which aims to make

available a reliable supply of low cost essential drugs through government facilities. As a first step, donors had made available an initial supply of free essential drugs. This supply used to start up a revolving drug fund, on a cost recovery basis. An Essential Drug Strategy and a Drug Policy, which supports this and other measures related to drug supply is being implemented in a stepwise fashion.

As part of this strategy, the Ministry has drawn up plans to reorganize its logistics sector into an autonomous unit that was able to recover the costs of essential drugs and medical supplies from the users, users who were not only MoPH health facilities, but also others such as the armed forces, NGO's, charities etc. All supplies sold at cost price plus 10% against budget allocation or cash to the users, thus establishing a basis for a sustainable system. In addition, the distribution system will be strengthened by renovating, building, and/or equipping stores at regional, governorate and selected district levels.

Besides logistics, there are many other unsolved problems in the pharmaceutical sector. In the public as well as private sector, prescription practices are irrational due to the perception among the public and among many professionals that "more is better". Weak diagnostic skills and lack of proper examination of patients are also major issues. In addition, the private drug sector is currently well developed, badly controlled, and making handsome profits on unnecessary drugs, often in collaboration with prescribers.

The MoPH has made the decision and initiated programs to improve the public health service sector, and then the private sector in relation to drug supply and practices. Initially, it assured the provision of safe, efficacious and affordable drugs and medical supplies in the public sector, raised the level of prescribing skills at all levels of care, change the expectations about drugs of the population at large, and put a stop to the leakage of public sector drugs into the private sector.

### Planned reforms

- Evaluation and revision of the national drug policy.
- Revision and updating of the legal aspects.
- Revision and updating of the therapeutic guide line and essential drug list, and preparation of the national drug list
- Strengthening of the central laboratory for drug monitoring
- Improvement of the drug information system and communications

## 8.8 Technology

There is currently no ICT development strategy available neither for the ministry inside nor for the ICT needs between the ministry and other institutions (horizontal or vertical). The World Bank funded Health Sector Support Project addresses the ITC topic in terms of a Health Management Information system. A short-term expert has recently developed an outline plan. So far, donor support – including WHO - mainly concentrated on hardware. Computers can be found all over the ministry. However, suspicions were raised during the interviews that some computers might "have disappeared", and other s complained that computers were not always fairly distributed.

The potential of ICT is not fully utilized yet. Computers are mainly used as typewriters. The main software consists of MS word and Excel. System software for (Personnel)

administration is lacking. Databases – if existing - are many kept in word or excel. The Personnel department itself has 4 computers, of which 3 are functional. 5 computers are located in the Human Resources Department. However, maintenance is poor all over the ministry presumably, because IT staff is not paid “according to market prices”. In particular, virus protection has been neglected and UPS does not safeguard electricity cuts. At the moment, there is no ministry-wide local internal network installed. The Internet room is closed and out of use, presumably because maintenance is insufficient. Apparently, IT capacity within the MoPH&P is not sufficient, although there are a number of possibilities to be trained and work on computers in the ministry.

An inventory of hardware, software (in terms of number, location and specification of computers), specification for a network and staff training will not be sufficient as preparation of a new system. Also staff attitude towards computers and the willingness of vertical and horizontal entities and individuals to provide proper data and information need to be ensured. Reportedly, employees are reluctant to improve their IT literacy or indicate to their supervisors that they are computer literate, as this would result in an increase of workload.

- The MoPH&P is relatively well equipped with computers, but their potential is not fully utilized due to the lack of special software, IT-literacy et al.
- There is no ministry-wide LAN, and Internet access is rather restricted.
- IT maintenance is not sufficient, due to financial restrictions and the difficulty to retain qualified IT staff.
- The attitude of staff towards the use of computers is not clear.
- Internal & external communication and information exchange are not fully institutionalized.

## Trends in supply, and distribution of essential equipment

The supply of drugs and medical goods to public health facilities is the responsibility of MOPH, which controls procurement, storage and distribution. Supplies for the private sector come under the jurisdiction of the Supreme Board for Drugs and Medical Appliances (SBDMA). Resources to purchase medical supplies are provided through the government budget while foreign exchange for imports is allocated by the Central Bank. In addition, UN agencies, notably WHO and UNICEF and a number of bilateral donors such as, the Netherlands and Germany, donate substantial quantities of drugs and medical equipment.

Up to 20 signatures may be required before the Minister signs a purchase order. Tendering has to go through a number of stages and pass several committees before the Central Bank of Yemen grants an import license, and the Ministry of Finance allocates funds. Thus several months may elapse before an order is actually placed, and additional months may pass to ship the goods, clear them with customs, and deliver them to designated storage facilities. In the process, annual budget allocations are not fully utilized and supplies are short of approved targets.

Storage is another weak link in the logistics of supplies. Central facilities in Sana'a, Aden and Hodeida are basically sound but need improvements in layout and workflow, in handling and the provision of special storage conditions for perishable items. But the biggest problems are found at regional and local storage facilities, which are frequently unsuited, and in a state of disrepair, Central medical stores are responsible for distributing supplies to all health facilities within their regional coverage. To establish and

maintain reliable supply lines one needs an effective inventory control system. Here again, the situation is less than satisfactory. Inventory registers are poorly maintained and information on stock levels, turnover and supplies is hard to come by.

Quality control of drugs and raw materials used in local drug manufacture, for both the public and private sector, is exercised by special laboratories in Sana'a and Aden attached to the SBDMA. Present procedures are somewhat deficient, however, and proposals have been made to introduce more up-to-date technology, including microbiological tests, supported by staff training programs. The laboratories could also be separated from SBDMA to attain greater impartiality

MOPH operates workshops in Sana'a and Aden for maintenance and repair services to public health facilities throughout the country. A workshop in the Health Manpower Institute maintains biomedical equipment. Other repair facilities are in Hodeida and Taiz. The private sector also offers some maintenance services, especially for equipment used in radiology and intensive care. Still, these services are inadequate to meet current requirements. Equipment and vehicles are often out of use because of missing spare parts and shortage of trained technicians. Bureaucratic hurdles and budgetary constraints contribute to the problem. Many buildings especially in rural areas are in disrepair as little or no funds are allocated for their maintenance. In this situation it is often less difficult for health officials to purchase new equipment - much of it is foreign financed - than to obtain funds for maintenance or spare parts, even though the latter would be more cost-effective. Strengthening maintenance services and making adequate budget provisions, therefore, could significantly reduce cost over the longer term.

## Current issues and concerns

While these arrangements look reasonable on paper, they do not work well in practice. Procurement procedures are cumbersome, storage facilities are inadequate, distribution systems are inefficient, and inventory control is poor. The result is delays in purchases of essential medicines and equipment, wastage and losses during distribution and most disturbingly, severe shortages of drugs and medical supplies at PHC facilities in rural areas. Streamlining procurement procedures and strengthening the distribution system therefore would be a critical factor in raising the effectiveness of the public health network.

## Planned reform

- Improvement of the availability of the essential drug list in an affordable price
- Promotion of the procurement system
- Supporting and encouraging the local drug industry
- Controlling over the counter drug.
- Training in the problem based pharmacotherapy learning in universities and HIMs.

# 9 HEALTH SYSTEM REFORMS

## 9.1 Summary of Recent and planned reforms

The reforms started during the mid of the First Five Year Plan and are to be continued during the Second Five Year Plan. The reforms are being introduced in two phases. First, an initiation and learning phase, in which all key aspects of reform will be introduced, lessons learnt, key legislation passed, district health systems put in place in 40% of the districts, revision of financial system initiated, and major actors brought on board. The second, a five-year consolidation phase in which the lessons learnt in the first phase are transformed into long term systems approach, policies and regulations, and the remaining districts covered by the District Health System.

### Determinants and Objectives

The public health system by the late nineties experienced several shortcomings on different levels. On the level of service provision, financial and geographical inaccessibility, low quality of services and reduced efficiency has been the experience of the majority of health care clients. On the other hand, on the level of the health system, there has been evidence of low capacity in operational planning in addition to lack of managerial capacity and the absence of managerial tools such as supervision and monitoring systems.

The Ministry of Public Health & Population embarked on a reform program in 1998 recognizing the serious shortcomings of the existing health system. The reform comes within an overall context of public sector reform based on decentralization, democratization, civil service modernization, and financial restructuring.

The reform program is documented in the Health Sector Reform Strategy (HSR) of 1998 representing the health sector vision for the forthcoming years. Long-term objectives of the process are to achieve universal access, equity, quality of services in addition to efficiency and financial sustainability. It was envisaged that the reform would be implemented in stages with the support of local and international organizations and development partners.

### Chronology and main features of key reforms

The HSR strategy of 1998 included 12 elements of reform namely;

1. Decentralization
2. District Health System
3. Redefinition of the public sector role
4. Community participation in management
5. Cost Sharing
6. Hospital Autonomy
7. Result based administration
8. Essential Drug List Policy
9. Inter-sectoral Coordination
10. Private Sector & NGOs participation

11. Encouragement of Innovation
12. Sector wide approach

The reform was supposed to be carried in two distinctive phases; the first to consolidate the ideas and the concept, the next was to implement the elements in step. The local context thereby was favorable to initiate the process given the commitment of the governmental bodies and consensus between the ministry and the national and international stakeholders.

## Process of implementation: approaches, issues, concerns

The HSR strategy was not complemented by a work plan outlining the timeline and responsibilities related to the reform, therefore, the process lost its directive and the commitment to the reform weaned. In 2001, the local authority law came into action and the whole public system underwent a deconcentration process delegating authority to lower levels; districts. The decentralization was likewise implemented in the national health system and the district health offices (DHO) were supposed to further empowered. Due to several shortcomings on that level; lack of technical capacity, financial authority not realized, the capability of DHO to properly operate their health systems has been questionable.

The ministry examined the implementation of the reform process in 2002 and declared that the key element of the reform is the establishment of the district health system (DHS) in which other elements such as decentralization, community participation and inter-sectoral cooperation could be realized. Since then the DHS has been the framework for operation of the health system.

The Yemeni government initiated a process of poverty reduction in 2002 and the health system was one of the main focuses of the process. Although a couple of the reform elements meant to deal with the issue of poverty, the necessity appeared to revisit the reform strategy and reflect this focus. Other changes in the local context and changes in the Ministry structure are additional reasons to evaluate and update the strategy.

## Progress with implementation

The implementation of the Health Sector Reform (HSR) has been challenging and progress has been achieved in selective elements of the reform namely; the realization of the District Health System (DHS) and decentralization. On the other hand, the immunization coverage was estimated to be 28% before the reform and current figures estimate a countrywide coverage of around 70% (latest EPI figures).

Other elements of reform such as Hospital Autonomy and Sector wide approach were not pursued for several reasons. Although the concepts remain valid, the changes in the local context have hindered any efforts to initiate the implementation of these reform elements.

## Process of monitoring and evaluation of reforms

Since initiation of the reform process, several reviews and evaluations have been conducted to examine the implementation of the reform elements. Nevertheless, there has not been any comprehensive evaluation of the reform process although there has been consensus among stakeholders to execute such exercise.

One of the pitfalls of the reform process besides the absence of a work plan for implementation was the establishment of a monitoring and evaluation system. This has

made it difficult for the ministry and others to evaluate the extent of reform and changes in indicators.

## Future reforms

Due to the reasons explained above and the shortcomings in implementation, there has been a consensus between the local stakeholders for the urgency of initiating a review for the reform so far. The ministry is expected to conduct a comprehensive review of the health sector, which would help in evaluation, and development of the new sector vision. This is expected to take place in 2005 coinciding with the development of the Third Five-year Developmental Plan (2006 – 2010) and the development of the MDGs Health Investment Plan. A framework is being developed for this review, which would involve the local and international stakeholders related to the health sector.

## Results / effects

Health service coverage is improving and preponderantly people use the formal and informal private sector. Difficulties in establishing the role and structure of the district health system have blocked the translation of better management into increased utilization of health services and improvement of health status. The current essential service package is unaffordable and needs downsizing to components, which focus on output indicators related to millennium development goals and poverty reduction. Financial decentralization of the budget has not yet been translated in major efficiency gains. The core ministries of Finance and Civil Service, capable of truly influencing real financial reform, have not yet been involved in the health reform efforts. Streamlining of government agencies is taking place in terms of staff numbers and processes but the efficiency gains accruing from such streamlining will take time to enhance health sector reform. Therefore the approach to reform should focus on interventions that do not depend upon results from the civil service reform for their implementation or impact. Focal points have been established for health reform and gender, which are bringing awareness of reform issues to the MOPHP as a whole.

Whilst the situational analysis demonstrates progress in the health sector there is no clear evidence that the reforms per se, in their present form, have produced these improvements in health outcomes. Major constraints and bottlenecks in implementing health sector have been identified in the central MOPHP, at the peripheral health system and in donor contributions. These include the fact that there has been an inability to successfully operationalize the concepts of health reform so that momentum has been lost due to weak ownership and commitment, aided and abetted by self-seeking opposition to change within the MOPHP. Aid agencies have been indecisive, probably also due to unfamiliarity with current global best practices in health policy development. Structural reorganization of the MOPHP should focus on separating the policymaking, regulation, and finance and provider functions. Cumbersome input financing procedures lead to delay and standstill of reform.

The poor interaction between the government and donors in achieving consensus about the vision of the future health system adds to the fact that the comparative advantages of the private sector have been ignored in achieving public sector policy.

# 10 REFERENCES


1. Statistical Year Book 1998, Central Statistical Organization (CSO), Ministry of Planning and Development, ROY
2. Demographic and Maternal and Child Health Survey, 1997, CSO, Ministry of Planning and Development, ROY, 1996
3. Annual Report of the MOPH, 1998, MOPH, ROY
4. Population Projections, 1994-2031, CSO, Ministry of Planning and Development, ROY, 1996
5. Health laboratory Services in the Republic of Yemen, 26th May –17th June 2000
6. The First Five Year National Plan for Health Development 1996-2000 in the ROY, MOPH, December 1995
7. Situation Analysis of the Reproductive Health of Yemen, Preliminary Report for Discussion, MOPH, 11 October, 1998
8. Health Sector Reform in the ROY, How and Why, MOPH, ROY
9. Health Sector Reform in the ROY, Strategy for Reform, MOPH, ROY, December 1998
10. Planning the Health Sector Reform, Proceedings of the Workshop, 9-11th February, 1999, MOPH, ROY
11. Forum for Health Sector Reform, Discussion Papers 1-7, National Health Systems and Policies Unit, Division of Strengthening Health Services, WHO, Geneva, July 1995
12. Health Systems: Improving Performance, The World Health Report 2000, WHO, Geneva
13. Public Health Expenditure Review for the Health Sector, World Bank, Middle East and North Africa Region (MENA), September 14, 1998
14. Implementation Completion Report, Health Sector Development project (Credit 2151-YEM), World Bank, (MENA), Washington D.C., June 21, 1999
15. Health Sector Review, Republic of Yemen, World Bank, Washington D.C., 1994
16. Building a Strategy for Reform of the Health Sector, Draft for Discussion, ROY, 25th July to 12th August, 1998, World Bank
17. The Yemen Health Care Consumer: Out of Pocket Costs and Health Care Utilization, World Bank, July 1998
18. Draft Report of the Consultation on HRH in the 21st Century for the EMR Countries, WHO, Alexandria, August 2000
19. Interim Report 1, Management Component, GTZ Consulting Services, HSR, Support Unit, MOPH, Sana'a April 2000
20. Health Manpower in Yemen, Preliminary Analysis, GTZ Consulting Services, HSR, Support Unit, MOPH, Sana'a, February 2000
21. Human Resources for Health in the Republic of Yemen, 6th December 1991- 7th January, 1992, Mahmud Sirajul Haq, WHO, EMRO, Alexandria
22. Implementation Guidelines for Improving Hospital performance through Policies to Increase Hospital Autonomy, M. Chawla and R. Govingraraj, August 1996

23. Methodological Guidelines for Improving Hospital performance through Policies to Increase Hospital Autonomy, M. Chawla. R. Govingraraj, Peter Berman, and Jack Needleman, August 1996
24. Consultancy to Improve the Provision of Health Services at the District Level, Draft Report to the World Bank, S. Jenkins, D. Reynolds, E. Carlsson, October 1997
25. Implementation Plan Task Force, HSR. MOPH, Yemen. May 2, 1999
26. The State of the World's Children 2000, UNICEF, New York
27. The Progress of Nations 2000, UNCEF, New York
28. Yemen Drug Action Program: Progress Report first half 2000, Department of Pharmacy and Medical Supply, MOPH, Sana'a
29. Survey results of the Health Centre Attendance of the Poor after the Introduction of Cost Recovery: Marina de Regt and Marja Exterkate; November 1996
30. Report on the visit to Yemen, Dr. Ibrahim M. Abdel Rahim, RA/EDH, WHO, EMRO, Alaxandria

# 11 ANNEXES

## 11.1 Essential Drugs List by level of care

See the attached file

## Annex- ESSENTIAL DRUG LISTS BY LEVEL OF UTILISATION

### ESSENTIAL DRUGS FOR HEALTH UNITS (level 1)

V = Vital
E = Essential
N = Necessary

| # | Drug | Form | Strength | VEN |
|---|---|---|---|---|
| | **Common drugs** | | | |
| 1 | Acetylsalicylic acid, double scored | tab | 300mg | E |
| 2 | Paracetamol, double scored | tab | 500mg | E |
| 3 | Paracetamol | syrup | 24mg/ml | N |
| 4 | Chlorphenamine maleate | tab | 4mg | E |
| 5 | Albendazole, chewable | tab | 200mg | E |
| 6 | Phenoxymethyl penicillin | tab | 250mg | E |
| 7 | Phenoxymethyl penicillin | susp. | 25mg/ml | E |
| 8 | Metronidazole | tab | 200mg | E |
| 9 | Metronidazole | susp. | 200mg/5ml | E |
| 10 | Cotrimoxazole, scored | tab | 400/80mg | V |
| 11 | Cotrimoxazole | susp. | 40/8mg/ml | V |
| 12 | Benzoic acid + salicylic acid) | oint | 6% + 3% | E |
| 13 | Chloroquine phosphate | tab | 150mg base | V |
| 14 | Chloroquine phosphate | syrup | 10mg/ml base | V |
| 15 | Primaquine | tab | 7.5mg | V |
| 16 | Ferrous sulfate | tab | 200mg (65mg iron) | E |
| 17 | Folic acid | tab | 1mg | E |
| 18 | Ferrous Sulfate + Folic acid | tab | 60mg base+0.25mg | E |
| 19 | Gentian violet | powd. | for dilution | E |
| 20 | Potassium permanganate | powd. | for dilution | N |
| 21 | Calamine | lotion | 5% | N |
| 22 | Silver nitrate applicator | pencil | | N |
| 23 | Sulphur in petrolatum | oint | 6% | N |
| 24 | Zinc oxide | oint | 10% | N |
| 25 | Chlorhexidine digluconate | sol | 5% to dilute | N |
| 26 | PVP iodine | topic sol | 10% | E |
| 27 | Methylated spirit(ethanol) | liq | 90% | E |
| 28 | Peroxygen & Organic Acid | powd. | 1% to dilute | E |
| 29 | Al/Mg hydroxide | tab | 500mg | N |
| 30 | Senna | tab | 7.5mg | N |
| 31 | Oral Rehydration Salt / ORS | powder | dilute to 750ml water bottle | V |
| 32 | Tetracycline HCL | eye oint. | 1% | V |
| 33 | Simple linctus BP | syrup | BP | N |

**<u>Note</u>: the level 1 EDL is also available at the 2 others levels (HC and DH)**

| # | Drug | Form | Strength | VEN |
|---|---|---|---|---|
| 1 | Oxygen (medical quality) | inhal | | V |
| 2 | Lidocaine HCl | inj | 2% | V |
| 3 | Lidocaine + adrenaline 1/100,000 | inj | 2% | E |
| 4 | Ibuprofen,scored | tab | 200mg | E |

| | | | | |
|---|---|---|---|---|
| 5 | Indomethacin | caps | 25mg | N |
| 6 | Pethidine HCl | inj | 50mg | V |
| 7 | Chlorphenamine maleate | inj | 10mg/ml | E |
| 8 | Epinephrine (Adrenaline) | inj | 1mg/ml | V |
| 9 | Prednisolone | tab | 5mg | E |
| 10 | Diazepam | inj | 5mg/ml | V |
| 11 | Phenobarbital, scored | tab | 30mg | V |
| 12 | Phenytoin sodium | tab | 50mg | V |
| 13 | Niclosamide | tab | 500mg | N |
| 14 | Praziqantel | tab | 600mg | V |
| 15 | Amoxicillin | tab | 250mg | V |
| 16 | Amoxicillin | syrup | 25mg/ml | V |
| 17 | Procaine benzyl penicillin | inj | 1.2 mill. IU | E |
| 18 | Diloxanide furoate | tab | 500mg | N |
| 19 | Methyldopa | tab | 250mg | V |
| 20 | Digoxin | tab | 0.25mg/ml | V |
| 21 | Silver sulfadiazine | cream | 1% | V |
| 22 | Hydrocortisone acetate | cream | 1% | N |
| 23 | Gamma benzene hexachloride | lotion | 1% | N |
| 24 | Fursamide, scored | tab | 40mg | V |
| 25 | Fursamide | inj | 10mg/ml | V |
| 26 | Promethazine sugar coated | tab | 25mg | N |
| 27 | Antihaemorrhoidal ointment + hydrocortisone | oint | manufacturer composition | N |
| 28 | Hyosine N-butylbromide | tab | 10mg | N |
| 29 | Hyosine N-butylbromide | inj | 20mg/ml | N |
| 30 | Bisacodyl | tab | 2mg | N |
| 31 | Copper containing IUD ***** | | | E |
| 32 | Insulin (soluble) # | inj | 100 IU/ml | V |
| 33 | Insulin (intermediate-acting) # | inj | 100 IU/ml | V |
| 34 | Insulin Mixtrad (30/70) # | inj | 100 IU/ml | E |
| 35 | Glibenclamide ***** | tab | 5mg | V |
| 36 | Tolbutamide ***** | tab | 500mg | E |
| 37 | Ergometrine maleate ***** | tab | 0.2mg | E |
| 38 | Diazepam | inj | 5mg /ml | V |
| 39 | Diazepam, scored | tab | 5mg | E |
| 40 | Aminophylline | inj | 25mg/ml | V |
| 41 | Salbutamol # | tab | 4mg | V |
| 42 | Salbutamol # | syrup | 2mg/ml | N |
| 43 | Theophylline # | tab | 200mg/SR | E |
| 44 | Glucose 5% | inj | 50 ml – amp | V |
| 45 | Sodium chloride 0.9% | inj sol | | V |
| 46 | Dextrose 2.5% + Sodium chloride | inj sol | 0.45% | E |
| 47 | Sodium compound | inj sol | | V |
| 48 | Water for injection | inj | | V |
| 59 | Retinol (vit. A) | soft cap | 100,000 IU | V |
| 60 | Calcium lactate | tab | 300mg | N |
| 61 | Multivitamin (as placebo) | tab | | N |

****** these drugs can be dispensed by trained midwifes***

***#** these drugs are dispensed for patients in S level (central ) or level 3, but it can be dispensed for patients according to special card*

# ESSENTIAL DRUGS FOR DISTRICT HOSPITALS (level 3)

**Note: the level 2 EDL is also available at the DH level**

| # | Drug | Form | Strength | VEN |
|---|---|---|---|---|
| 1 | Nitrous Oxide ( medical quality ) | inhal | | V |
| 2 | Atropin Sulphate | inj | 1 mg/ml | V |
| 4 | Promethazin HCL | elixir | 1 mg /ml bot. 100 ml | N |
| 5 | Diclofenac sodium | inj | 25 mg /ml | N |
| 6 | Dexamethason (sodium phosphate) | inj | 4 mg /ml | V |
| 7 | Hydrocortison ( sodium succinate) | pow inj | 100 mg -vial | E |
| 8 | Carbamazepine | tab | 200 mg | V |
| 9 | Ethosuximide | caps | 250 mg | E |
| 10 | Ampicillin | inj | 500 mg / vial | E |
| 11 | Benzathin benzyl penicllin | pow inj | 1.2 mill .IU | V |
| 12 | Benzyl penicillin (crystalline penicillin ) | pow inj | 1 million . IU | V |
| 13 | Chloramphenicol | caps | 250 mg | V |
| 14 | Chloramphenicol | syrup | 25 mg /ml bot - 100 ml | E |
| 15 | Erythromycin | tab | 250 mg | V |
| 16 | Erythromycin | syrup | 25 mg/ml bot.100ml | V |
| 17 | Miconazole | oral/gel | 25 mg /ml | E |
| 18 | Miconazole | pessary | 100 mg or eq. | E |
| 19 | Chloroquine phosphate | inj | 40 mg ml base amp 5 ml | V |
| 20 | Sulphadoxine/pyrimethamine | tab | 500/25 mg | V |
| 21 | Propanolol | tab | 40 mg | E |
| 22 | Atenolol, scored | tab | 50 mg | E |
| 23 | Glyceryl trinitrate | sub tab | 0.5 mg | E |
| 24 | Propanolol, double scored | tab | 40 mg | V |
| 25 | Hydrochlorthiazide, scored | tab | 25 mg | V |
| 26 | Betamethason valerate | oint. | 0.1% -tube ,30 g | E |
| 28 | Rantidine | tab. | 150 mg | E |
| 29 | Prednisolone | tab. | 5 mg | E |
| 30 | Snake venom anti serum | inj | polyvalent | V |
| 31 | Rabies immuno-serum | inj | 200 IU /ml | V |
| 32 | Rabies vaccine | inj | single - amp | V |
| 33 | Suxamethonium chloride or bromide | pow.inj | 50 mg -vial | V |
| 34 | Gentamycin sulphate | eye drops | 0.3 % -bot. 5 ml | N |
| 35 | Ergometrine maleate | inj. | 0.2 mg /ml-amp-1 ml | E |
| 36 | Oxytocin | inj | 10 IU /ml – amp | E |
| 37 | Chlorpromazin HCl | inj | 25 mg /ml - amp 2ml | V |
| 39 | K-Chloride | tab | 600 mg | V |

The Regional Health Systems Observatory is an undertaking of the WHO Regional Office for the Eastern Mediterranean. The Observatory supports and promotes evidence-based health policy-making through comprehensive and rigorous analysis of the dynamics of health systems in the EMR. Its primary goal is to contribute to the improvement of health system performance and outcomes, in terms of better health, fair financing and responsiveness of health systems. The aim of this initiative is to provide relevant comparative information to support policy-makers and analysts in the development of health systems and to serve as repository of information on health systems.

This document is part of a series of in-depth health systems profiles, produced and updated by the Observatory using standardized approach that allows comparison across countries. They provide facts, figures and analysis and highlight reform initiatives in progress.

World Health Organization

Regional Office for the Eastern Mediterranean
Abdel Razek El Sanhouri Street,
PO Box 7608, Nasr City, Cairo 11371, Egypt
Phone: +202-6702535, Fax: +202-6702492
URL: www.emro.who.int