

## D. MAJOR HEALTH ISSUES IN JORDAN

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In Jordan great achievements have been made in health over the last three decades. However, further improvements in the health status of the Jordanian population face a number of challenges. These issues are identified on the basis of situation analysis using both sources of routine existing data and results of special surveys.

The teaching/learning objectives of the current presentation are:

—Analyzing data derived from existing sources and from surveys.

—Identifying important issues and challenges facing health improvement.

The identified issues and challenges facing the health sector in Jordan are:

—The demographic changes representing population increases and higher life expectancy.

—Considerable changes in lifestyle that favor developing determinants and risk factors for chronic diseases, accidents, injuries, and substance abuse.

—The epidemiologic transition and changes in the pattern of disease that are characterized by a progressive increase in non-communicable diseases like cardiovascular diseases, cancer, diabetes, and mental health problems, as well as accidents and health of the elderly.

—The lack of adequate coordination between the major health sectors and the overlap in the provision of health services.

—The lack of a rigorous appraisal and reorientation of the current state of human resources development in health.

—The negative impact of poverty on accessibility to quality health care, particularly in view of the high proportion of uninsured people.

—The increased demands and expectations of the public for effective and accessible health care.

—Inadequate coordination between the public sector and the increasingly sig-

nificant private sector plus the lack of effective systems for monitoring and auditing clinical practice.

### MAJOR HEALTH ISSUES IN JORDAN

#### Demographic and Socioeconomic Trends

The total population of Jordan in 2001 was estimated at 5,182,000. The declining mortality and the high total fertility rate has contributed to overall population growth that averaged 3.3% per year from 1992–1998.<sup>1</sup>

Jordan demographics will change dramatically over the next 50 years. The population has doubled over the last 20 years and is likely to almost double again by 2035. Based on 2000 figures, 39.6% of the population is under 14 years of age, 57.7% between 15–64 years, and 2.7% over 65 years. The proportion of people older than 65 years of age has been increasing and is expected to reach nearly 4% of the total population by 2015. Life expectancy is 71 for women and 68.6 for men. The total fertility rate is relatively high, though it has been declining steadily in recent years from more than 7 live births per woman of child-bearing age in 1976 to 4.4 in 1997. The UNDP Human Development Report classified countries by their human development index rankings; Jordan ranked 94 out of 174 countries.<sup>2</sup>

Demographic indicators for the years 2000 are shown in Table 1.

#### Mortality Trends

Major achievements have been made in health during the last few decades. The infant mortality rate has fallen from 135 deaths per 1000 live births in 1960 to slightly more than 31 deaths per 1000 live births in 2000. The 2001 Jordanian fertility survey found that 33 of

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**Table 1. Demographic and socioeconomic indicators, 2000**

Indicators	Value
Demographic indicators	
Total population (000)	5039.0
Population growth rate	2.8%
Average household size	5.8
Average life expectancy	69.9
Total fertility rate	3.7
Crude birth rate	28.0
Crude death rate	5.0
Socioeconomic indicators	
Adult literacy rate (%): both sexes	89.0
Males	94.0
Females	84.0
Per capita GDP (Jordanian Diner)	1136

Source: Jordanian Minister of Health.

every 1000 babies born in 1998 failed to reach their first birthdays. The estimate for mortality in children younger than five years is 40 per 1000 live births.<sup>3</sup>

There are gender as well as rural/urban variations in infant and child mortality. Based on the 2001 estimates, urban infant mortality was higher than rural (33.7 vs 30 deaths per 1000 live births). This new trend applies to urban male infant mortality, which was higher than rural male mortality, but female mortality is still lower in urban areas.

Generally, the impressive decline in infant mortality and child mortality which occurred over the last few decades is the result of focused maternal and child health activities, increased vaccination coverage rates, improvements in education, birth spacing, sanitation, and access to clean water. Other factors contributing to the reduction in mortality include the increased use of oral dehydration therapy and better childhood nutrition. Maternal mortality has also decreased to approximately 38 deaths per 100,000 live births in 2000. During

**Table 2. Health status indicators**

Health status indicators	Year	Value
Newborns with birth weight 2500 g or more (%)	2000	92.7
Children with acceptable weight for age (%)	1997	95
Infant mortality rate (per 1000 live births)	2000	31.3
Probability of dying before 5th birthday (per 1000 live birth)	1999	33.0
Maternal mortality rate (per 100,000 live births)	2000	38
Life expectancy at birth (years):		
both sexes	2000	69.8
Males	2000	68.6
Females	2000	71.0
Number of reported new cases of:		
Polio	2000	0
Malaria	2000	158
Total tuberculosis	2000	265
Pulmonary tuberculosis	2000	152
HIV/AIDS	2000	38
Measles	2000	32

Source: Jordanian Minister of Health.

the same period the use of antenatal care has expanded to cover more than 90% of pregnant women. Similarly, most births (92%) are attended by trained health personnel (Table 2).

All deaths should be registered according to the law in Jordan. However, registration is not universal, and death certification by cause is not completely accurate. The estimated crude death rate is 5 per 1000 population. Cardiovascular diseases, according to death certificates, accounted for an average of 42% of all deaths in 1997. Cancer is the second leading cause of death, accounting for 13% of total deaths, while accidents are the third leading cause, accounting for 10.5% of total deaths. The Directorate of Disease Control in the Ministry of Health has analyzed a sample of 62,298 death certificates. Forty-five percent of all deaths occurred in the age group 65 years and older and about 25% occurred in the age group 50–64 years. Deaths during the first year and ages 1–4 years constituted 6.8% and 3.9%, respectively.<sup>4</sup> When controlling for physical activity, cardiovascular diseases were confirmed as the leading causes of death, responsible for more than 50% of all deaths. Diabetes was the cause of death in more than 5%. This finding does not accurately reflect the diabetes burden since in most diabetes patients; cardiovascular disease is the direct cause of death.

### Communicable Diseases

Although disease profile in Jordan is changing, infectious diseases remain on the list of major causes of death. According to reports of the Disease Control Directorate in the Ministry of Health, diarrheal diseases, acute respiratory infections, and hepatitis are still leading conditions reported from health facilities in Jordan.<sup>5</sup>

The list of reported communicable diseases includes 40 diseases, of which one fourth are no longer reported in Jordan (eg, cholera, typhus, yellow fever, and plague). The remainder of the list

includes vaccine preventable diseases that are declining in terms of the number of reported cases and some infections which are oscillating in occurrence (eg, bloody diarrhea, meningitis, and zoonotic diseases). The variation in the number of reported cases may be due to either improvement in the surveillance system or involvement of the private sector in reporting these diseases.

The incidence of pulmonary tuberculosis is in continuous decline. With good surveillance and follow up of all cases and contacts, the incidence dropped from 7.3/100,000 in 1993 to 3.4/100,000 in 2001.

### Chronic Non-Communicable Diseases

Jordan, like other middle-income countries, is witnessing an epidemiologic transition, which is characterized by an increase of non-communicable diseases, particularly cardiovascular diseases, cancer, diabetes, and chronic respiratory conditions. The major cardiovascular diseases are hypertension, coronary heart disease, and stroke. As indicated above, these health problems are now becoming the leading causes of death in Jordan, with cardiovascular diseases and cancer alone responsible for more than half of all deaths. The Ministry of Health reports a national ratio of hypertension of 32% among those aged 25 years and above.<sup>6</sup> According to the Jordan Morbidity Survey of 1996, about 40% of those aged 40 years and above were hypertensive.<sup>7</sup> The Utilization of Health Services and Delivery Study showed that over 85% of hypertensives were either overweight or obese.<sup>8</sup> The same study revealed that 89% of the study population had uncontrolled hypertension.

Another community-based study conducted on three communities in different parts of Jordan showed a similar prevalence, with about one half of hypertensive subjects unaware of their hypertensive status before the survey.<sup>9</sup> In terms of magnitude, Jordan has at least

the same high prevalence seen in other countries of the region; the differences in diagnostic cut-off points in the various studies can explain the discrepancy in prevalence figures.

Determinants and levels of risk factors for chronic non-communicable diseases are rising. Smoking is a major problem, with more than 40% of adult men and 5% of women smoking regularly. What is more alarming is a prevalence of smoking of about 20% among school children 13–15 years of age. Obesity seems to be emerging as a major problem. According to a study conducted in semi-urban communities in Jordan, obesity (body mass index  $\geq 30$ ) was found to affect about 60% of women and 33% of men aged 25 years and over.<sup>10</sup> More data on obesity were obtained from the 1996 Jordan Morbidity Survey, which revealed a very high combined prevalence of overweight and obesity of 68% in a sample of 2435 subjects aged 25 years and over. Less than one third of the sample was considered of normal weight.

More women were overweight than men (47.5% compared to 42.2%). These data need to be confirmed by further research.

### Food Consumption

Data on food consumption are generally scarce, but the Department of Statistics in Jordan conducts national household expenditure and income surveys every five years. The household expenditure on foods and beverages has slightly increased from 40.6% in 1992 to 44.3% in 1997. Household expenditure on cereals has increased from 3.4% in 1992 to 6.0% in 1997 of total expenditure on foods. There was a slight decrease from 4.6% in 1992 to 3.8% in 1997 for milk products.<sup>4</sup>

The average household expenditure on meat and fruits and vegetables was approximately 11.3% and 5%, respectively. As expected, the lower the income level of a household, the higher the proportion of total expenditure on

food, particularly cereals and other staples.

Cereals represent the main source of energy in the Jordanian diet, providing 47.6% of total energy intake. Pulses (legumes) provide less than 2% of total energy. Milk products provide about 5% of total energy, and 7.4% of total energy was provided by vegetables and fruits in 1997. The intake of sweets was relatively high, contributing to 13.5% of total energy. The percentage of energy provided by protein was 11.5% in 1992 compared to 12.7% in 1997 and a good percentage (about 35%) came from animal sources. The remaining protein was provided by other vegetable foods. According to available data, the percentage of energy provided by fat was low at 23.8% in 1997, while it was reported to be 25% in 1992. The intake of fat and oils was higher in urban than rural areas. Fats and oils are generally used in the Jordanian diet for cooking and seasoning purposes along with traditional dishes.

### Reproductive Health

The 1992 morbidity data indicate that complications of pregnancy and delivery account for 4.6% of illness among women aged 15–44 years; they account for 20% of public hospital admissions and 10% of private hospital admission.<sup>11</sup>

Important causes of perinatal illness in a large general hospital in 1993 included cesarean section, hypertension during pregnancy and toxemia, and antepartum hemorrhage. Iron deficiency anemia is a common problem among pregnant women in Jordan (33%). However, this figure is lower than the world average of 37% and lower than the ratio in developing countries.

The maternal mortality reported by the Ministry of Health is estimated at 41 deaths/100,000 births. However, the 1997 demography and health survey data estimated maternal mortality to be 79/100,000.<sup>12</sup>

**Table 3. PHC coverage indicators**

Indicators	Year	Value
PHC coverage (%)		
Population with safe drinking water	1998	97
Population with adequate excreted dispo.	1998	60
Population with local health care	1999	96
Deliveries attended by trained personnel	1997	92
Women of childbearing age using family planning	1998	56.7
Polio (OPV3) immunization	2000	94
DPT (DPT) immunization	2000	91
Measles immunization	2000	92
Hepatitis (HBV3) immunization	2000	93

Source: Jordanian Minister of Health.

### Environmental Health

The fresh water supplies of Jordan are scarce and strategically critical. With an average per capita annual share of 170 cubic meters, Jordan ranks as one of the world's 10 most water-stressed countries.<sup>3</sup> The average share is 156 liters/citizen/day, one of the lowest in the Middle East. Acute water scarcity, compounded by relatively high population growth rate, is considered an important constraint to sustainable development. Water availability per capita declined and continues to decline because of population growth. The economic constraints of the country hinder developing additional non-conventional water resources (desalinated or imported). The water scarcity is exacerbated by pollution, which constitutes a serious threat to health. The main sources of pollution include insufficient and inefficient management of domestic wastewater, uncontrolled disposal of industrial waste, and leaching from unsanitary solid waste landfills.

Public piped water supplies are available to 95% of the Jordanian population. Water is provided intermittently with supply frequency of once or twice a week, each of 12–24 hours duration. The quality of supplies suffers from supply interruptions and from inadequacy of the distribution systems.

About 60% of the urban population and 50% of the total population have access to wastewater collection and treatment systems, thus raising the san-

itation level and strengthening control of surface and groundwater pollution in the areas served by wastewater facilities.

### HEALTH POLICIES AND STRATEGIES

The Ministry of Health has adopted the Health for All policy, which considers health as a basic right for every citizen. The government continues to support primary health care towards Health For All and has committed to extend health insurance coverage. The civil health insurance bylaw has been updated to allow more sectors of the population to benefit from health insurance.

### THE HEALTHCARE SYSTEM

The health system in Jordan includes the following sectors:

- The Public Sector
- Ministry of Health
- Royal Medical Services
- Public University Hospitals
- The Private Sector
- The International and Charitable Sector including UNRWA (United Nations Refugee Work Agency)

#### Primary Care

The Ministry of Health operates an extensive primary healthcare network, consisting of 265 village health clinics, 333 primary healthcare centers, and 47

comprehensive health centers, with about 2.2 centers per 10,000 population, and with an average patient travel time to the nearest center of 30 minutes, this distribution represents a high-density system by international standards. In addition to the Ministry of Health network, UNRWA operates 21 primary care centers and 30 special care clinics for Jordan's Palestinian refugees. Finally, as mentioned above, the private sector is active in providing primary care, accounting for nearly 40% of all initial patient contacts.<sup>13</sup>

Table 3 shows some indicators in relation to primary healthcare coverage.

### HEALTHCARE USE

The United States Agency for International Development (USAID) funded a survey on healthcare use and expenditure through the Partnerships for Health Reform Project (PHR).<sup>8</sup> The survey sample consisted of 8306 households. The survey showed that Jordanians used 3.55 outpatient visits per capita annually, with women using more visits than men. About half of outpatient visits occurs at Ministry of Health facilities. Outpatient visits by the illiterate, the poor, and those living in rural areas are much more likely to occur at Ministry of Health facilities than at any other facilities. The Ministry of Health and private providers therefore occupy a critical place in healthcare delivery.

On average, Jordanians pay JD 32.7 per annum on outpatient care; of this average, 75% represents spending on pharmaceuticals. This figure is higher for the elderly.

### HEALTH INFORMATION SYSTEM

There have recently been important achievements in upgrading health information systems at various levels. However, many constraints still exist, including incomplete morbidity data. The in-



**Table 4. Health personnel in Jordan in 2000, according to employing sector**

Health	Sector		Rate Per 10000 Population
	Total N	% Private	
Physicians	575	58.2	19.0
Dentists	2885	79.3	5.7
Pharmacists	4329	89.3	8.6
Registered nurses	6742	49.3	13.1
Midwives	1215	24.3	2.1
Assistant nurses	5795	9.3	9.2
Practical nurses	1816	0.0	2.9

formation center of the Ministry of Health has now been computerized, and a plan to computerize 20 health directorates and 200 health centers has been adopted. Advances have been made in using information technology by all health sectors, but these achievements vary in extent from one institution to another. One major constraint is incompleteness and inaccuracy in mortality statistics, particularly in relation to death certification by cause.

## HUMAN RESOURCES FOR HEALTH

The complexity of the healthcare delivery system and the increasing role of the private sector require careful planning and management of human resources to achieve equitable provision of health care. While no absolute ideal ratios exist, the physician-to-population ratio is high. However, the nurse-to-physician ratio is low, which may have implications for the cost and quality of care.

Six out of 10 physicians in Jordan work in the private sector, and about one half of registered nurses are similarly employed. The proportion of dentists and pharmacists who work privately is 79% and 89%, respectively<sup>13</sup> (See Table 4).

Hospital utilization ratios are medium to low in general, but are very low for private hospitals, in which length of stay is 3–4 days on average. This finding may be explained in part by the use of

inpatient services for diagnostic purposes. Hence, potential exists to improve the efficiency of human resources use and reducing the cost of hospital care.

## HEALTH INSURANCE

Jordan's health delivery system is financed by four principal sources: 45% public funding, including general taxation, premiums paid by public firms, and contributions to charitable nongovernmental organizations; 43% household spending, including payroll deductions for insurance, user fees, and purchase of pharmaceuticals and other health commodities; 8% donor contribution including UNRWA; and 4% private firms, which pay health insurance premiums for their employees. The government of Jordan is committed to attaining the goal of universal health insurance.

## DISCUSSION

Great achievements have been made in health during the last three decades. However, further improvement in health status of the Jordanian population faces important challenges.

The overall challenge facing health development is to strengthen the national health system to achieve overall goals: good health, responsiveness to the expectations of the population, and fairness of financial contribution. Progress toward these goals depends on how well

the health system carries out its major functions: service provision, resource generation, financing, and stewardship. Strengthening the health system is also closely linked to priority strategic directions: reducing the excess mortality of poor and marginalized populations, dealing effectively with the leading risk factors, and placing health at the center of the broader development agenda. Performance standards by the health system make a profound difference on the quality and value, as well as the life expectancy of the people it serves, hence improving health systems performance is key to health development.

While improving health is the main objective of a health system, it is not the only one. The objective of good health is twofold: goodness and fairness. Goodness means a health system responding well to what people expect of it; fairness means it responds equally well to everyone, without discrimination.<sup>14</sup>

Protecting the poor is one of the principal policies of sound government. The poor have to pay for the health care from their own pockets when they are sick and most in need of care. They are less likely to be members of job-based prepayment schemes and have less access than better-off groups to subsidized services.

The ultimate responsibility for the overall performance of a country's health system lies with government, which in turn should involve all sectors of society in its stewardship. The careful and responsible management of the well-being of the population in the very essence of good government.

Health policy and strategies need to cover the private provision of services and private financing, as well as state funding and activities. Oversight and regulation of private sector providers and insurers must be placed high on national policy agendas. At the same time, it is crucial to adopt incentives that are sensitive to performance. Consumers of health services need to be better informed about what is good and bad for

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their health, why not all of their expectations can be met, and that they have rights, which all providers should respect.

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