

7 HUMAN RESOURCES

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

7.1 Human resources availability and creation

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

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

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

Source: Annual Health Reports of Ministry of Health, Oman

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

Table 7.2 Changes in Workforce Densities 1995-2005

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

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

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

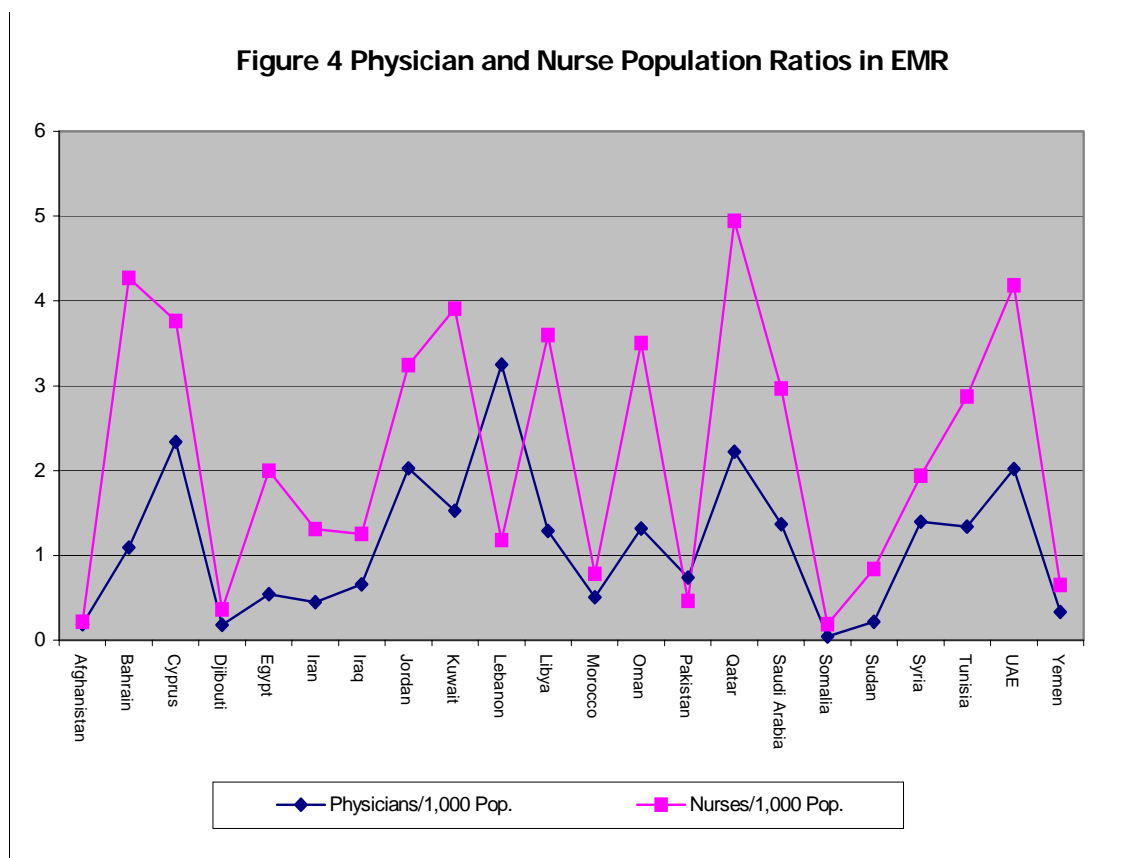
Health workforce availability in Oman is largely comparable to other countries at similar per capita income level in the region, but significantly lower than that in industrialized countries.²⁵ See Table 6.3 and Chart 6.1 in the next page.

Table 7.3 Workforce Density in Selected Countries

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

Number Per 10,000 Population

Source: The World Health Report 2006



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

Source : Based on The World Health Report 2006

Health Professional Education in Nursing and Allied Professions.

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

Table 7.4 Educational Institutions for Health - 2005

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

Note: 1. Capacity is defined to be the annual number of graduates from these institutions.

2. Planned Institution means an existing institution yet to graduate a batch.

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

Table 7.5 Number of Graduates from MoH Educational Institutes – 2005

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

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

Medical Education in Oman

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

Table 7.6 Medical Graduates from Sultan Qaboos University 1993-2005

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

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

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

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

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

Self-reliance in Human Resources

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

7.2 Human resources policy and reforms over last 10 years

Human Resources Planning

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

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

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

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

7.3 Planned Reforms