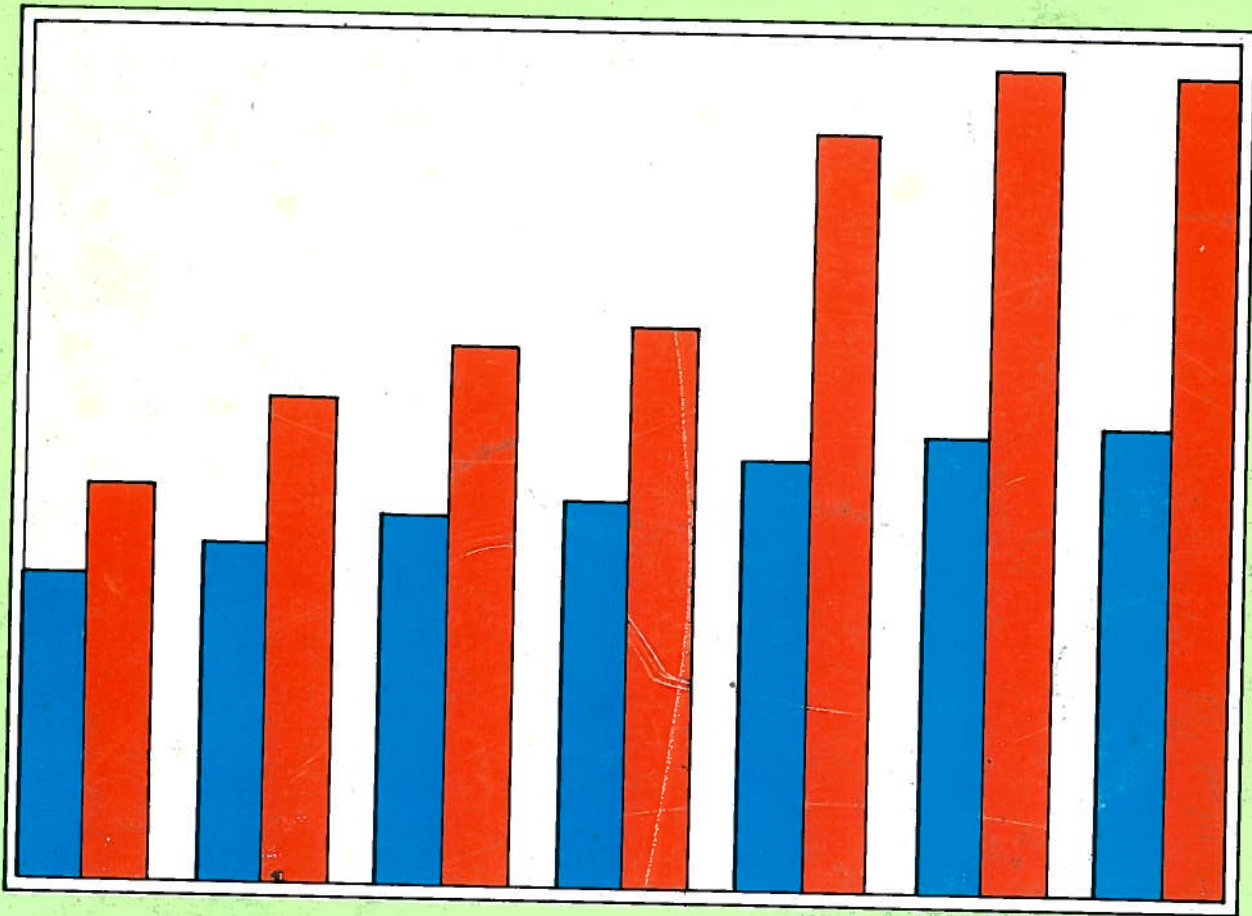


**SULTANATE OF OMAN
MINISTRY OF HEALTH**

ANNUAL STATISTICAL REPORT

1989 A.D. 1409 / 1410 A.H.



Prepared by : —
Directorate of Planning and Follow-up

**SULTANATE OF OMAN
MINISTRY OF HEALTH**

ANNUAL STATISTICAL REPORT

1989 A.D. 1409 / 1410 A.H.

Prepared by : —
Directorate of Planning and Follow-up



HIS MAJESTY SULTAN QABOOS BIN SAID

PREFACE

This report gives a summary of the levels and activities of the health services in the Sultanate and their effect on improving the health of the population. 1989 saw a continuation of the improvement of both services and the health status of the population. Given the rapid development of the health services over the last nineteen years we have now achieved a high level of health care - both preventive and curative.

We are now entering a consolidation phase in which we plan to make major improvements to many of the existing health facilities and to provide areas currently served by mobile medical units with new permanent facilities. This will further improve the quality of health care provided.

The information presented here shows the current status of health care facilities and their utilization along with morbidity distributions of both inpatients and outpatients. They provide tools by which we can monitor and evaluate and hence continue to improve the provision of health services to the people in accordance with the wishes of His Majesty the Sultan.

We have made great strides in improving the health of the people, especially that of our children who will one day become the workers and leaders of the country. Their healthy upbringing promises a healthy future for the country.

May God bless us and guide us to achieve our goal.

Ali bin Mohammed bin Moosa

Minister of Health

F O R E W O R D

The health sector has made great strides during the last 19 years. With only two small hospitals in 1970, by the end of 1989 there were 47 hospitals and 3 maternity centres having a total of 3360 beds.

The objective of the current 5-Year Plan to improve the coverage of health services in rural areas has been followed. By the end of 1989 there were 88 health centres, providing primary health care - both curative and preventive - to the communities in which they are located. There were also mobile medical teams, to provide access to health care for the smaller isolated communities. During the year, two new health centres were opened at Al Khod and Muqshan.

The preventive services continued to provide an invaluable service to the Sultanate in 1989. The Expanded Immunization Programme (EPI) immunized over 90% of all infants before they reached the age of one year to provide them with the security of protection against the six serious communicable diseases of tuberculosis, diphtheria, pertussis, tetanus, poliomyelitis and measles. Maternal and Child Health (MCH) services continued to protect mothers and children, with more than 80% of all pregnant women using ante-natal services for an average of 6 times during each pregnancy. New Public Health units became operational at Mirbat and Dibba. Thus, at the end of 1989, there were 6 public health compounds, 60 public health units, 4 MCH centres, 9 malaria control centres and 7 quarantine units serving the country.

The number of medical and para-medical personnel employed under the Ministry of Health remained constant over 1989. At the end of 1989 there were 919 physicians, 3,274 nurses and 3,293 para-medical personnel. Including health staff in both other organizations and the private sector, the Sultanate had one doctor per 1,160 population, and one nurse per 420 population.

Over 1989, the health status of the population has generally continued to improve. The EPI programme has been successful in maintaining low levels of the six major infectious diseases in children. Plans are underway to introduce a further immunization at age 40 days to protect children against Type B Hepatitis.

The special programme to control tuberculosis has achieved a further reduction in the numbers of new cases, and the Acute Diarrhoeal Diseases programme has continued to provide oral rehydration for early treatment, and hence reduce both the severity and the subsequent mortality. Trachoma and malaria continue to be major public health problems. The incidence of malaria fell in 1989 having been quite stable for the previous three years. As in the recent past, the country remained free from all quarantinable diseases throughout the year.

Periodical Workshops, Symposia and Seminars for medical and para-medical workers were organized in order to keep them abreast with developments in the medical field. Training courses for medical and public health workers were also organized during the year.

This report contains data and information on the current status and utilization of health services in the Sultanate. Any suggestions for the improvement of the content or the presentation of this report would be most welcome.

Mohammed Baqer bin Moosa bin Ali
Director
Directorate of Planning & Follow-up

I N D E X

Table No.	(All tables relate to Ministry of Health Institutions except where otherwise stated)	Pages
SECTION 1 INTRODUCTION AND GENERAL BACKGROUND..... 1-5		
1.1	Estimated national vital rates 1980-1989.....	4
1.2	National health indicators : 1984 - 1989.....	5
SECTION 2 DISTRIBUTION AND UTILIZATION OF CURATIVE SERVICES... 6-16		
2.1	Regional Distribution of Curative Units as of 31.12.1989.....	7
2.2	Distribution of beds by Specialty as of 01-01-1990.....	8- 9
2.3	Hospital administrative statistics by hospital - 1989.....	11-12
2.4	Attendances in Hospital Out-Patient Departments - 1989.....	13-14
2.5	Attendances in Health Centres - 1989.....	15-17
SECTION 3 MORBIDITY.....19-34		
3.1	Inpatient Morbidity - 1989 & 1988.....	21
3.2	In-Patient Morbidity by Region - 1989.....	22-24
3.3	In-Patient Morbidity Rates per 10,000 population by Region...25-27	
3.4	Out-Patient Morbidity in Hospitals and Health Centres - 1989..28-32	
3.5	Notifiable diseases - 1985 - 1989.....	33
3.6	Patients treated abroad - 1989.....	34
SECTION 4 OTHER HOSPITAL ACTIVITIES.....35-50		
4.1	Deliveries & Births in Hospitals & Maternity Centres - 1989...36-39	
4.2	Operations performed by type - 1989.....	41-43
4.3	Radiography performed in Hospitals - 1989.....	44-45
4.4	Laboratory investigations carried out in Hospitals - 1989.....	46-48
4.5	Dental and other activities in Hospitals - 1989.....	49-50
SECTION 5 PREVENTIVE MEDICINE.....51-64		
5.1	Regional Distribution of Preventive Units - 31-12-1989.....	51
5.2	Ante-natal services by Region - 1989.....	52
5.3	Expanded Programme of Immunization - 1989.....	54
5.4	Expanded Programme of Immunization Coverage - 1981 to 1989....	55
5.5	Prevention of Blindness Programme - 1987 to 1989.....	57
5.6	Tuberculosis prevention programme - 1985 to 1989.....	59
5.7	Malaria control activities - 1987 to 1989.....	61
5.8	Malaria incidence (by passive case detection) - 1989.....	62
5.9	Malaria prevalence (by household survey) - 1989.....	63

Table No.	(All tables relate to Ministry of Health Institutions except where otherwise stated)	Pages
-----------	---	-------

SECTION 6 TRAINING.....65-67		
6.1	Enrolment at the Institute of Health Sciences - 1987 to 1989..	66
6.2	Graduates from the Institute of Health Sciences 1984 to 1989..	67
SECTION 7 PERSONNEL.....68-74		
7.1	Medical, paramedical & other staff as of 31-12-1989.....	69
7.2	Categories of Medical & Para-medical staff as of 31-12-1989...	70-71
7.3	Medical & Para-medical Personnel - 1983 to 1989.....	72
7.4	Total Medical & Para-medical staff (in Ministry of Health, other Organizations and the Private Sector) 1988 & 1989.....	73
SECTION 8 NON-HEALTH MINISTRY ORGANIZATIONS.....75-79		
(GOVERNMENT)		
8.1	Health Facilities as of 31-12-1989.....	76
8.2	Medical and Para-medical Personnel employed as of 31-12-1989.	77
8.3	Utilization of health services - 1988 & 1989.....	78
(PRIVATE)		
8.4	Number of Clinics and Medical Personnel in the Private Sector by Regions - 31.12.1989.....	79
SECTION 9 FINANCE..... 80		

C H A R T S

1.	Hospital beds : 1983 - 1989.....	10
2.	Hospital Beds by Regions : 31.12.1989.....	10
3.	Discharges from Hospitals : 1983 - 1989.....	18
4.	Outpatient Attendance - 1983 - 1988.....	18
5.	Livebirths by place of delivery : 1989.....	35
6.	Immunization coverage : 1983 - 1989.....	54
7.	Medical & Para-Medical staff - 1983 - 1989.....	74
8.	Distribution of doctors by employment sector.....	74

APPENDICES

1.	Organizational structure of the Ministry of Health.....	81
2.	Distribution of Ministry of Health facilities by Region.....	82-84

1. I N T R O D U C T I O N

(a) General features

The Sultanate of Oman occupies most of the south-eastern corner of Arabian Peninsula and has a coast line stretching almost 1,700 kilometers from the Straits of Hormuz in the north to the frontier with the People's Democratic Republic of Yemen. The Musandam Peninsula, the northern most point of Oman is separated from the main body of the Sultanate by a strip of territory which is part of the United Arab Emirates. The total land area of the country is 300,000 square kilometers which includes 246,000 sq.kms of wadi & desert areas, 45,000 sq.kms of mountains and 9,000 sq.kms of coastal plains.

In 1988, the Higher Council for Regional Development standardised the regions of the country to ensure consistency and hence comparability between the information provided by different sectors. These are :-

- (1) Muscat (including Quriyat)
- (2) Janubia (formerly Dhofar or Southern)
- (3) Dakhilya (formerly Interior or Al Joof)
- (4) Sharqiya (formerly Eastern)
- (5) Batinah
- (6) Dhahirah
- (7) Musandam

For administrative purposes in the Health Ministry, the Region of Batinah was subdivided into the two regions of North Batinah and South Batinah. Tables thus present results for these regions.

The Sultanate is divided into 41 Wilayats in addition to the capital area of Muscat. The country has about 1,900 towns & villages. Oil is still the main source of national income, although some industrialization has taken place in recent years. Agriculture and fisheries are also being developed as additional sources of national income.

(b) Demographic profile

No population census has ever been undertaken in the Sultanate. However, from surveys carried out by the Development Council and the Ministry of Health, national and regional estimates of the population size have been made for the purpose of planning and evaluating health services.

(c) Health Care Delivery System

The Ministry of Health is the main provider of health care in the country. The three organizations of the Ministry of Defence, the Royal Oman Police and Petroleum Development Oman (PDO) provide medical care to their employees and their dependants. No private hospitals exist in Oman, but primary care is provided by private physicians who work in their own clinics.

The Ministry of Health provides both curative and preventive health services. During 1989 each was administered by its own Directorate. However, from the beginning of 1990, in order to achieve better co-ordination and utilization of resources, the delivery of curative and preventive services will be integrated in a regionalized health care system. The 1989 administrative structure is shown in Annex-A.

(1) Directorate of Curative Services

The Directorate of Curative Services provides primary, secondary and tertiary care through a network of hospitals, health centres, maternity centres and mobile medical units.

(i) At the local level, a health centre headed by a physician provides basic health care. Small hospitals also exist at the local level which are of two types. One type has from 4 to 20 beds for general medicine and maternity, as well as an outpatient service. These facilities are also shared with preventive health units to provide comprehensive primary care services. The other type of hospital has 24 to 49 beds providing additional inpatient, casualty and emergency services. These hospitals also provide preventive services including maternal and child health (MCH), environmental sanitation and school health services.

(ii) At the district and regional levels, the curative services are provided by district hospitals with 50 to 160 beds and regional hospitals with 200 or more beds. These hospitals have extensive inpatient and outpatient services, including specialized services in medicine, surgery, paediatrics and maternity. The three major hospitals in Muscat - the Royal, Khoula and Al Nahdha - also provide tertiary care and act as national referral hospitals.

(2) Directorate of Preventive Services

This Directorate administers a network of units which conduct preventive programmes comprising maternal and child health (including immunization), environmental health, control of communicable diseases and health promotion. The control of communicable diseases includes vertical programmes for the control of Malaria, Trachoma, Tuberculosis, Diarrhoeal diseases, Respiratory diseases as well as the Expanded Programme of Immunization.

1 GENERAL INFORMATION

While no census has yet been undertaken in the Sultanate, both population sizes and vital statistics are required for the planning and evaluation of health services. Based on information available at the Ministry of Health, Table 1.1 shows the best estimates available of the vital statistics for the last ten years.

The infant mortality rate is generally accepted as an overall indicator of the health of a country as it is affected by the provision of health services (curative and preventive), the utilization of these services by the population, and the quality of the environment in which the population lives, each of these being an important factor in the risk of mortality amongst the very young. The significant decline in the infant mortality over the last ten years is an indication of the improved provision of health services to the very young and to an overall improvement in the general standard of living.

The most noticeable features of Table 1.1 are the high birth rates and hence high natural increase rates. The birth rate of 47 per 1,000 population in 1989 is among the highest in the world due to the high fertility rates among women of all ages, especially those aged 30-39. With the majority of births now surviving, due to improved maternal and child health care, the infant mortality rate has more than halved over the last decade to about 31 per 1,000 livebirths in 1989. The combination of the high birth rate and the low overall death rate results in a very high estimated natural increase rate of 4.2% in 1989. At this rate, the population of Oman will double every 20 years.

As a measure of the contribution of the provision of health services to the improved health of the population, Table 1.2 shows the trend in health service indicators for the last 5 years. Each indicator has continued to improve over this period. There were no major changes in 1989, but additional beds were added to some of the busier hospitals.

TABLE 1.1

ESTIMATED OMANI NATIONAL POPULATION STATISTICS 1980-1989

ESTIMATED VITAL RATES

YEAR	BIRTH RATE (per 1000 population)	INFANT MORTALITY (per 1000 livebirths)	OVERALL MORTALITY (per 1000 population)	NATURAL INCREASE RATE (%)
1980	57	64	11	4.6
1981	57	59	9.9	4.7
1982	57	55	9.0	4.8
1983	57	51	8.3	4.9
1984	56	48	7.7	4.8
1985	54	45	7.1	4.7
1986	52	42	6.6	4.5
1987	50	38	6.2	4.4
1988	49	34	5.8	4.3
1989	47	31	5.4	4.2

SOURCES

(1) BIRTH RATES -

The results of applying the age-specific fertility rates found in the 1988 Maternal and Child Health survey to the estimated age/sex distribution of the population.

(2) INFANT MORTALITY RATES -

55 in 1982 and 45 in 1985 (Child Mortality Survey 1986)
34 in 1988 (Maternal and Child Health Survey 1988)
Interpolation and extrapolation for other years.

(3) OVERALL MORTALITY -

The results of applying the West life tables to the estimated age/sex distribution of the population.

TABLE 1.2

NATIONAL HEALTH INDICATORS : 1984 - 1989

<u>INDICATOR</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
HOSPITAL BEDS/10,000 POPN.	19.6	20.7	21.6	22.3	24.4	24.5
DOCTORS/10,000 POPULATION.	6.3	6.7	7.1	8.0	8.7	8.6
NURSES/10,000 POPULATION..	13.9	15.6	16.3	22.4	24.1	24.0
DENTISTS/10,000 POPULATION	0.4	0.4	0.5	0.5	0.6	0.6
PHARMACISTS/10,000 POPN...	1.0	1.4	1.4	1.5	1.5	1.5
POPULATION/HOSPITAL BED...	510	480	460	450	410	410
POPULATION/DOCTOR.....	1,590	1,500	1,410	1,250	1,150	1,160
POPULATION/NURSE.....	720	640	610	450	410	420
POPULATION/DENTIST ('000s).	24.0	23.8	19.4	18.7	16.5	16.6
POPULATION/PHARMACIST('000s)	10.2	7.3	6.9	6.8	6.7	6.9

2 DISTRIBUTION AND UTILIZATION OF CURATIVE SERVICES

Table 2.1 show the regional distribution of the curative services of 47 hospitals, 3 maternity centres and 88 health centres which were operational under the Ministry of Health at the end of 1989.

At the end of 1989, the hospitals and maternity centres had a total of 3,360 beds compared with 3,316 beds at the end of 1988. Their distribution by region, hospital and specialty is shown in Table 2.2. Each region is well equipped, with the number of hospital beds approximately proportional to the region's population. The only exception to this is the Muscat region whose beds are a mixture of general beds to serve the Muscat population alone, and tertiary care beds (to provide the specialist services not routinely available in general hospitals) for the whole Sultanate. The underprovision of beds in the Batinah regions is currently being amended with extensions to the Sohar and Rustaq hospitals.

The utilization of the hospitals' inpatient services is shown in Table 2.3. Almost 177 thousand patients were discharged from the 47 hospitals in 1989 - the same as in 1988. On average, the hospitals cared for 2,303 inpatients per day, who stayed for an average of 4.8 days. This meant that the hospital beds were occupied, on average, 69% of the year - the same as for 1988. Smaller hospitals, with less demand had, on average a lower occupancy rate, while some of the busier hospitals even ran at over 100% occupancy (this meant that extra beds had to be used temporarily to cope with the demand).

The utilization of hospital outpatient services is shown in Table 2.4. A total of 5.5 million patients were seen during 1989, which was a 2% increase over the 5.4 million in 1988. The three hospitals with the highest throughput were the Al Nahdha Hospital in Muscat, the Sohar Hospital in Sohar and the Qaboos Hospital in Salalah, each of which saw an average of over 1,200 patients on each of the 365 days of the year.

The utilization of the 86 health centres, 3 maternity centres and 5 mobile medical teams is shown in Table 2.5. A total of 2.8 million patients were seen during 1989 - a 5% increase over the 2.7 million in 1988. The busiest clinics were the Amirat and the Seeb in Muscat and the Birka and Masnah in North Batinah each of which saw an average of over 400 patients each day of the year.

Thus, in hospital outpatient departments and health centres combined a total of 8.3 million outpatients were seen, an average of 5.5 visits per person per year. This is a very high average figure for the total population.

TABLE 2.1
REGIONAL DISTRIBUTION OF CURATIVE UNITS AS OF 31.12.1989

R E G I O N S	HOSPITALS	MATERNITY CENTRES	HEALTH CENTRES	T O T A L
MUSCAT.....	8	0	9	17
JANUBIA.....	5	0	27	32
DAKHILYA.....	8	0	10	18
SHARQIYA.....	10	0	17	27
BATINAH NORTH....	4	1	8	13
BATINAH SOUTH.....	5	0	7	12
DHAHIRA.....	4	1	8	13
MUSANDAM.....	3	1	2	6
T O T A L	47	3	88	138

TABLE 2.2 HOSPITAL BEDS BY SPECIALTY AND REGION AS OF 1ST JANUARY 1990

BEDS BY SPECIALTY

HOSPITAL	TOTAL BEDS	PAEDI ATRIC	ADULT MEDICAL	ADULT SURGICAL	ADULT MIXTURE	OBSTETRIC GYNAE	ICU CCU	OTHER
MUSCAT								
ROYAL.....	648	128	159	174	0	135	32	20
KHOULA.....	410	52	0	174	0	160	6	18
AL-NAHDHA.....	204	16	23	134	0	0	4	27
AR-RAHMA.....	80	0	77	0	0	0	0	3
ASSAADA..... CLOSED	(16)	0	0	0	0	(16)	0	0
IBN-SINA.....	81	0	81	0	0	0	0	0
QURIYAT.....	43	13	16	0	0	8	0	6
MUSCAT.....	2	0	0	0	0	0	0	2
TOTAL:	1466	209	356	482	0	303	42	76
JANUBIA								
QABOOS.....	300	64	72	81	0	55	4	24
TAWI ATTAIR.....	6	0	0	0	6	0	0	0
RAKHYUT.....	18	5	13	0	0	0	0	0
SUDH.....	20	5	15	0	0	0	0	0
MADINAT AL-HAQ.....	20	5	15	0	0	0	0	0
TOTAL:	364	79	115	81	6	55	4	24
DHAKILYA								
SUMAIL.....	74	18	20	20	0	10	0	6
NIZWA.....	169	70	24	23	0	42	2	8
BAHLA.....	42	12	18	0	0	12	0	0
HAIMA.....	40	9	15	8	0	8	0	0
IZKI.....	20	6	8	0	0	6	0	0
ADAM.....	31	9	13	0	0	7	0	2
JABAL AKHDAR.....	4	0	0	0	0	4	0	0
DUQUM.....	12	6	6	0	0	0	0	0
TOTAL:	392	130	104	51	0	89	2	16
SHARQIYA								
IBRA.....	67	27	14	14	0	10	0	2
SUR.....	124	28	25	40	0	31	0	0
B.B.BU ALI.....	63	27	16	8	0	8	0	4
B.B.BU HASSAN.....	52	18	16	6	0	8	0	4
SINAW.....	41	12	0	0	14	8	0	7
MASIRAH.....	29	9	0	0	20	0	0	0
WADI DIMA & TAYEEN.....	35	0	0	0	0	0	0	35
WADI BANI KHALID.....	8	0	3	0	0	3	0	2
SAMAD AL-SHAAN.....	22	6	0	0	0	0	0	16
BIDIYA.....	26	8	0	0	12	6	0	0
TOTAL:	467	135	74	68	46	74	0	70

HOSPITAL BEDS BY SPECIALTY AND REGION AS OF 1ST JANUARY 1990

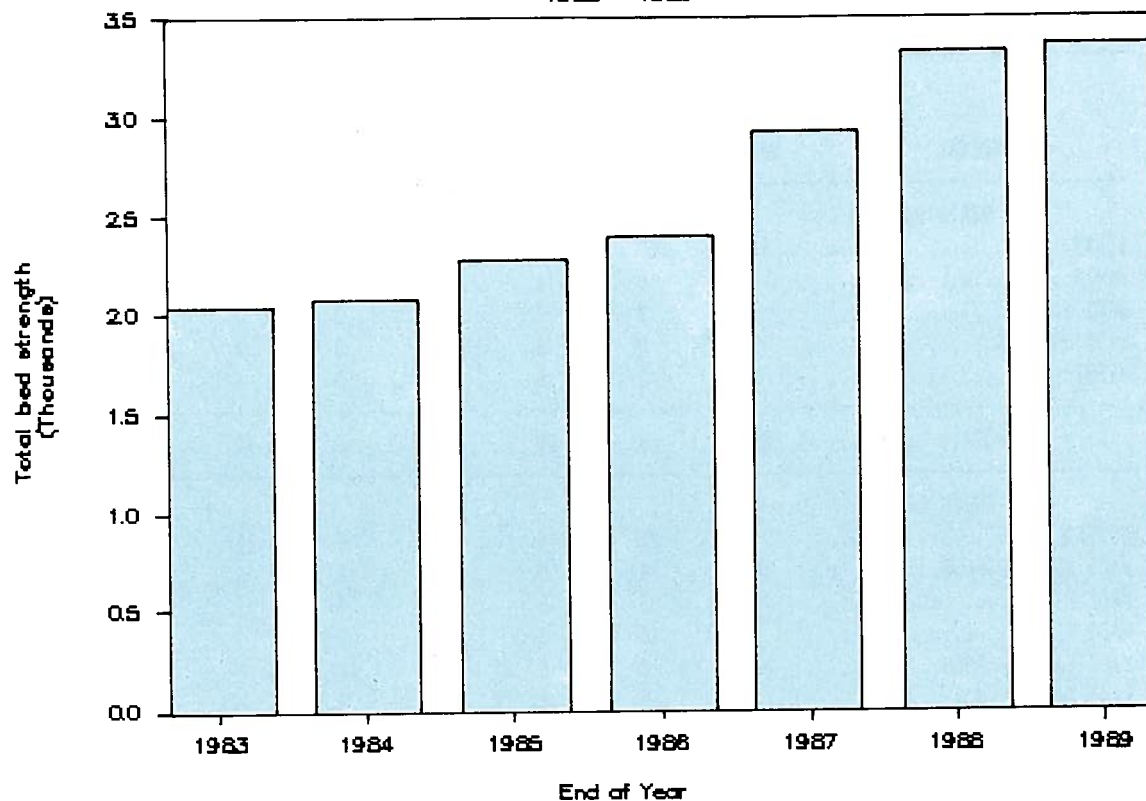
HOSPITAL	TOTAL BEDS	PAEDI ATRIC	ADULT MEDICAL	ADULT SURGICAL	ADULT MIXTURE	OBSTETRIC GYNAE	ICU CCU	OTHER
NORTH BATINAH								
SOHAR.....	180	62	25	43	0	43	4	3
SAHAM.....	50	16	18	0	0	16	0	0
WADI SARAMI.....	10	0	7	0	0	3	0	0
WADI HAWASNA.....	12	0	8	0	0	4	0	0
HEEBI (M).....	4	0	0	0	0	4	0	0
TOTAL:	256	78	58	43	0	70	4	3
SOUTH BATINAH								
RUSTAQ.....	79	21	14	13	0	25	2	4
WADI BANI GHAFIR.....	16	4	0	0	2	6	0	4
WADI MISTAL.....	14	6	3	0	2	3	0	0
WADI HEMLI.....	12	6	3	0	0	3	0	0
WADI BANI KHAROOS.....	16	6	0	0	10	0	0	0
WADI SAHTAN (HC)	2	0	0	0	0	2	0	0
TOTAL:	139	43	20	13	14	39	2	8
DHAHIRA								
TANAM.....	94	21	20	24	0	24	2	3
BURAIMI.....	75	17	20	16	0	20	0	2
YANKUL.....	9	0	0	0	0	9	0	0
MAHDHA (M).....	4	0	0	0	0	4	0	0
TOTAL:	182	38	40	40	0	57	2	5
MUSANDAM								
BUKHA.....	16	4	12	0	0	0	0	0
DIBBA.....	26	4	10	0	2	10	0	0
KHASAB.....	46	11	14	12	0	6	0	3
MADHA (M).....	4	0	0	0	0	4	0	0
TOTAL:	92	19	36	12	2	20	0	3
NATIONAL TOTAL:.....	3360	731	803	790	68	707	56	205

(M) = Maternity Centre (HC) = Health Centre

The hospital at Wadi Jizzi has no beds and hence is not included in this table

MINISTRY OF HEALTH HOSPITAL BEDS

1983 - 1989



MINISTRY OF HEALTH HOSPITAL BEDS

BY REGION 31-12-1989

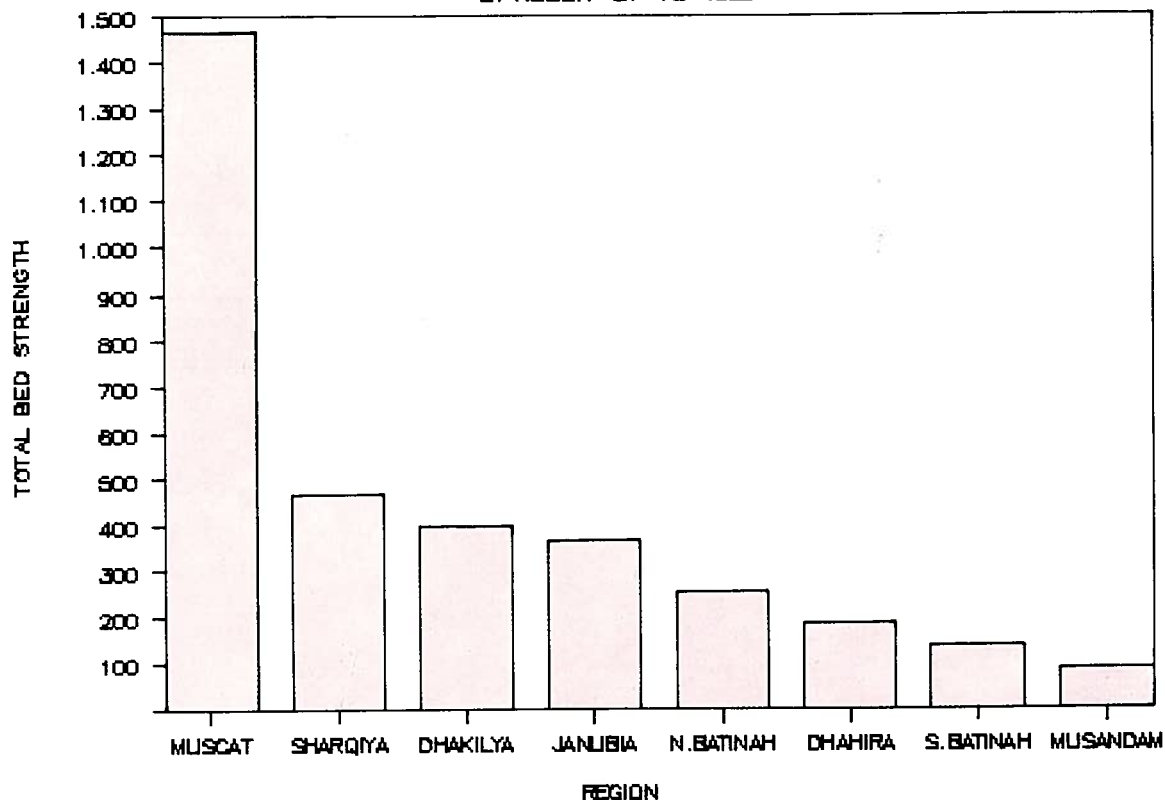


TABLE 2.3 MINISTRY OF HEALTH HOSPITALS - 1989

HOSPITAL INPATIENT ADMINISTRATIVE STATISTICS

REGION/ HOSPITAL	BED STRENGTH AS ON 31.12.89	DISCHARGES (Including Deaths)			DEATHS			HOSPITAL STATISTICS			
		M	F	TOTAL	M	F	TOTAL	TOTAL PATIENT DAYS	% OCCUP -ANCY	MEAN STAY	AVERAGE PATIENTS PER DAY
MUSCAT :											
ROYAL.....	648	11,571	14,637	26,208	360	253	613	161,469	68%	6.2	442
KHOULA.....	410	4,981	10,159	15,140	63	34	97	105,091	70%	6.9	288
AL-NAHDHA.....	204	2,660	1,708	4,368	1	1	2	30,506	41%	7.0	84
AR-RAHMA.....	80	395	249	644	41	18	59	20,178	69%	31.3	55
QURIYAT.....	43	897	1,857	2,754	12	6	18	8,651	55%	3.1	24
ASSAADA.....**	(16)	0	971	971			0	2,443	72%	2.5	12
IBN-SINA.....	81	446	204	650	2	1	3	40,816	138%	62.8	112
MUSCAT.....	2	0	0	0	0	0	0	0	0%	N.A.	0
TOTAL :	1,468	20,950	29,785	50,735	479	313	792	369,154	69%	7.3	1011
AL-BATINAH (NORTH)											
SOHAR.....	180	5,188	9,951	15,139	184	101	285	50,518	77%	3.3	138
SAHAM.....	50	1,384	5,011	6,395	7	6	13	12,372	68%	1.9	34
WADI SARAMI.....	10	118	205	323			0	583	16%	1.8	2
WADI AL-HAWASNA....	12	48	136	184			0	391	9%	2.1	1
TOTAL... ..	252	6,738	15,303	22,041	191	107	298	63,864	69%	2.9	175
AL-BATINAH (SOUTH)											
RUSTAQ.....	79	2,608	6,521	9,129	73	46	119	32,932	114%	3.6	90
W.B.GHAFFIR.....	16	332	715	1,047			0	2,942	50%	2.8	8
WADI MISTAL.....	14	71	141	212	1	0	1	495	10%	2.3	1
WADI HEMLY.....	12	403	591	994	0	1	1	3,197	73%	3.2	9
WADI B. KHAROOS....	16	156	276	432			0	1,527	26%	3.5	4
TOTAL... ..	137	3,570	8,244	11,814	74	47	121	41,093	82%	3.5	113
TOTAL AL-BATINAH... ..	389	10,308	23,547	33,855	265	154	419	104,957	74%	3.1	288
DAKHILYA :											
SUMAIL.....	74	2,125	3,479	5,604	44	28	72	21,414	79%	3.8	59
NIZWA.....	169	4,226	5,464	9,690	69	36	105	45,618	74%	4.7	125
BAHLA.....	42	1,420	3,036	4,456	26	20	46	11,560	75%	2.6	32
HAIMA.....	40	476	411	887	5	0	5	3,290	23%	3.7	9
IZKI.....	20	571	1,414	1,985	3	1	4	4,966	68%	2.5	14
ADAM.....	31	726	1,269	1,995	3	4	7	6,741	60%	3.4	18
DUQUM.....	12	193	241	434	3	0	3	1,193	27%	2.7	3
JABAL AKHDAR.....	4	40	90	130	0	1	1	244	17%	1.9	1
TOTAL :	392	9,777	15,404	25,181	153	90	243	95,026	66%	3.8	260

HOSPITAL INPATIENT ADMINISTRATIVE STATISTICS

REGION/ HOSPITAL	BED STRENGTH AS ON 31.12.89	DISCHARGES (Including Deaths)			DEATHS			HOSPITAL STATISTICS			
		M	F	TOTAL	M	F	TOTAL	TOTAL PATIENT DAYS	% OCCUP -ANCY	MEAN STAY	AVERAGE PATIENTS PER DAY
SHARQIYA :											
IBRA.....	67	1,682	2,803	4,485	31	27	58	16,936	69%	3.8	46
SUR.....	124	2,368	4,668	7,036	36	38	74	29,038	64%	4.1	80
B.B. BU ALI.....	63	2,251	3,531	5,782	22	22	44	18,899	82%	3.3	52
B.B. BU HASSAN.....	52	1,094	1,578	2,672	9	6	15	9,110	48%	3.4	25
SINAW.....	41	1,258	2,402	3,660	17	11	28	10,032	67%	2.7	27
MASIRAH.....	29	1,289	1,403	2,692	7	6	13	8,912	84%	3.3	24
W.DIMA & TAYEEN....	35	1,215	1,576	2,791	5	8	13	8,138	64%	2.9	22
WADI BANI KHALID...	8	147	372	519	0	2	2	1,434	49%	2.8	4
SAMAD AL-SHAAN.....	22	507	1,038	1,545	5	2	7	5,016	62%	3.2	14
BIDIYA.....	26	603	927	1,530	3	2	5	4,282	45%	2.8	12
TOTAL :.....	467	12,414	20,298	32,712	135	124	259	111,797	66%	3.4	306
AL-DHAHIRA											
TANAM.....	94	4,088	6,539	10,627	66	39	105	35,611	104%	3.4	98
BURAIMI.....	75	1,896	2,138	4,034	30	19	49	17,783	65%	4.4	49
YANKUL.....	9	211	726	937			0	1,533	47%	1.6	4
TOTAL :.....	178	6,195	9,403	15,598	96	58	154	54,927	85%	3.5	150
JANUBIA :											
QABOOS.....	300	4,531	8,268	12,799	83	67	150	82,548	75%	6.4	226
TAWI ATTAIR.....	6	94	154	248			0	504	23%	2.0	1
RAKHYUT.....	18	105	127	232			0	1,055	16%	4.5	3
SUDH.....	20	124	204	328	1	0	1	1,324	18%	4.0	4
MADINAT AL-HAQ.....	20	197	241	438			0	1,786	24%	4.1	5
TOTAL :.....	364	5,051	8,994	14,045	84	67	151	87,217	66%	6.2	239
MUSANDAM :											
BUKHA.....	16	181	303	484	0	2	2	1,241	21%	2.6	3
DIBBA (old BAYA)...	26	846	941	1,787	2	4	6	5,482	58%	3.1	15
KHASAB.....	46	1,210	1,216	2,426	8	7	15	10,650	63%	4.4	29
TOTAL :.....	88	2,237	2,460	4,697	10	13	23	17,373	54%	3.7	48
NATIONAL TOTAL :...	3,346	66,932	109,891	176,823	1,222	819	2,041	840,451	69%	4.8	2,303

** Closed for in-patients from 1.8.89.

(This table does not include the three maternity centres each with 4 beds and the Wadi Sahtan Health Centre with 2 beds)

TABLE 2.4

ATTENDANCE IN OUT-PATIENT DEPARTMENTS
OF HEALTH MINISTRY HOSPITALS - 1989

HOSPITALS	REGIONS	TOTAL ATTENDANCES	DAILY AVERAGE ATTENDANCE PER DAY (1)
MUSCAT			
ROYAL.....		309,052	847
KHOULA.....		155,779	427
AL-NAHDHA.....		440,607	1,207
AR-RAHMA.....		147,254	403
ASSAADA.....		21,618	59
IBN-SINA.....		26,940	74
QURIYAT.....		78,539	215
MUSCAT.....		87,078	239
TOTAL:		1,266,867	3,471
JANUBIA			
QABOOS.....		483,682	1,325
TAWI ATTAIR.....		28,328	78
RAKHYUT.....		5,979	16
SUDH.....		21,310	58
MADINAT AL-HAQ.....		21,224	58
TOTAL:		560,523	1,536
DAKHILYA			
SUMAIL.....		178,307	489
NIZWA.....		253,154	694
BAHLA.....		157,647	432
HAIMA.....		13,212	36
IZKI.....		107,838	295
ADAM.....		91,995	252
JABAL AKHDAR.....		23,329	64
DUQUM.....		18,319	50
TOTAL:		843,801	2,312
SHARQIYA			
IBRA		177,365	486
SUR.....		203,119	556
B.B.BU ALI.....		181,585	497
B.B.BU HASSAN.....		88,149	242
SINAW		151,923	416
MASIRAH.....		65,178	179
WADI TAYEEN.....		62,086	170
WADI BANI KHALID.....		24,040	66
SAMAD AL-SHAAN.....		118,485	325
BIDIYA.....		69,249	190
TOTAL:		1,141,179	3,127

HOSPITALS	REGIONS	TOTAL ATTENDANCES	DAILY AVERAGE ATTENDANCE PER DAY (1)
NORTH BATINAH			
SOHAR.....		457,279	1,253
SAHAM.....		216,276	593
WADI SARAMI.....		8,532	23
WADI HAWASNA.....		9,291	25
TOTAL:		691,378	1,894
SOUTH BATINAH			
RUSTAQ.....		195,018	534
WADI MISTAL.....		8,008	22
WADI HEMLI.....		32,763	90
WADI BANI GHAFFIR.....		50,089	137
WADI BANI KHAROOS.....		22,201	61
TOTAL:		308,079	844
DHAHIRA			
TANAM.....		238,967	655
BURAIMI.....		189,139	518
YANKUL.....		88,631	243
WADI JIZZI.....		25,302	69
TOTAL:		542,039	1,485
MUSANDAM			
BUKHA.....		27,067	74
DIBBA.....		71,128	195
KHASAB.....		91,855	252
TOTAL:		190,050	521
NATIONAL TOTAL:.....		5,543,916	15,189

NOTE

(1) Total attendances divided by 365 days.

TABLE 2.5

ATTENDANCE IN HEALTH MINISTRY HEALTH CENTRES - 1989

HEALTH CENTRES & MATERNITY CENTRES	REGIONS	TOTAL ATTENDANCES	DAILY AVERAGE ATTENDANCE PER WORKING DAY(1)
(1) MUSCAT			
AMIRAT.....		150,545	412
DAGMAR.....		19,152	52
HAIL AL GHAFF.....		12,352	34
MAZARA.....		14,801	41
NEW AL KHODH*.....		30,088	130
OLD AL KHODH.....		18,387	50
SEEB.....		157,701	432
SIYA.....		33,072	91
YETI.....		39,276	108
TOTAL:		475,374	1,302
(2) JANUBIA			
ASHUWAIMIYAH		5,289	14
DHALQUT		12,382	34
GHADOW		12,676	35
HADBEEN		5,098	14
HAIGHAF		9,466	26
HASIK		6,252	17
JIBJAT		12,120	33
KAHIL		18,760	51
KHADRAFI		7,899	22
KURIA MURIA		4,363	12
LIQBI		6,956	19
MAKINAT SHAHAN.....		10,811	30
MARSADIT		1,978	5
MIRBAT		44,484	122
MUDHAI		5,756	16
MUQSHAN*.....		42	1
PORT RAYSUT		4,016	11
QEIRON HEIRITI.....		17,540	48
RIMA		1,466	4
SHAHIB ASSAIB		19,944	55
SHARBITHAT		3,388	9
SHELEEM		14,740	40
SOGHARA		5,558	15
TAQA		41,417	113
TEYTUM		13,487	37
THUMRAIT		25,429	70
UMBUSHEQ		6,134	17
M.M.T. IN CENTRAL JABAL..		4,950	14
M.M.T. IN EASTERN JABAL..		37,955	104
M.M.T. IN EASTERN COASTAL		7,131	20
M.M.T. IN NEGD & C. OMAN		23,320	64
M.M.T. IN WESTERN JABAL..		7,792	21
TOTAL:		398,599	1,092

HEALTH CENTRES & MATERNITY CENTRES	REGIONS	TOTAL ATTENDANCES	DAILY AVERAGE ATTENDANCE PER WORKING DAY(1)
(3) DHAKILYA			
BARKAT AL MOUZ.....		22,521	62
BISIYA		37,694	103
FANJA		55,316	152
GHAFAT		34,531	95
HAMRA		72,225	198
MAMOR		34,083	93
MANAH		43,172	118
QURIYATEEN		35,055	96
WADI BANI RAUWAHA.....		26,301	72
WADI MAHRAM		15,686	43
TOTAL:		376,584	1,032
(4) SHARQIYA			
AFLAJ		16,500	45
AIGA		13,680	37
ASHKARA		33,165	91
DHAHIR		10,761	29
DREEZ		13,352	37
FALAJ AL MASHAIKH.....		16,864	46
GHAINA		18,052	49
KAMIL		35,281	97
MAHOOT		39,970	110
MUDHAIBI		43,810	120
MUDHERIB		16,726	46
QUMAILA**		10,200	28
RAS AL HAD		14,592	40
RUWAI		16,782	46
SUWAIH**		9,179	25
TIWI		12,176	33
WAFI		30,332	83
TOTAL:		351,422	963
(5) NORTH BATINAH			
ABU BAQRA		19,259	53
KHABURA		81,344	223
KHATMAT MALAHA.....		7,204	20
LIWA		92,145	252
MASHAIQ		6,432	18
SHINAS		63,345	174
SUWAIQ		99,271	272
WADI SHAFAN		6,070	17
HEEBI (M.C.)		25,456	70
TOTAL:		400,526	1,097

HEALTH CENTRES & MATERNITY CENTRES	REGIONS	TOTAL ATTENDANCES	DAILY AVERAGE ATTENDANCE PER WORKING DAY(1)
(6) SOUTH BATINAH			
AFI	38,732	106
AWABI	36,023	99
BIRKA	191,207	524
HOQEIN	29,845	82
MASNAH	162,290	445
NAKHAL	37,590	103
WADI SAHTAN	26,843	74
TOTAL:	522,530	1,432
(7) AL-DHAHIRA			
DHANK.....	47,808	131
FAYADH.....	10,931	30
HAJEERMAT	28,873	79
IBRI	59,948	164
MAMUR	21,084	58
MUQNIYAT	44,189	121
SUNAINA	14,219	39
WADI FIDA	17,511	48
MAHDHA (M.C.)	20,147	55
TOTAL:	264,710	725
(8) MUSANDAM			
KUMZAR.....	7,654	21
LIMA.....	13,813	38
MADHA (M.C.)	23,114	63
TOTAL:	44,581	122
NATIONAL TOTAL:.....	2,834,326	7,765

(M.C.) = Maternity Centre
(M.M.T.) = Mobile Medical Team

NOTES

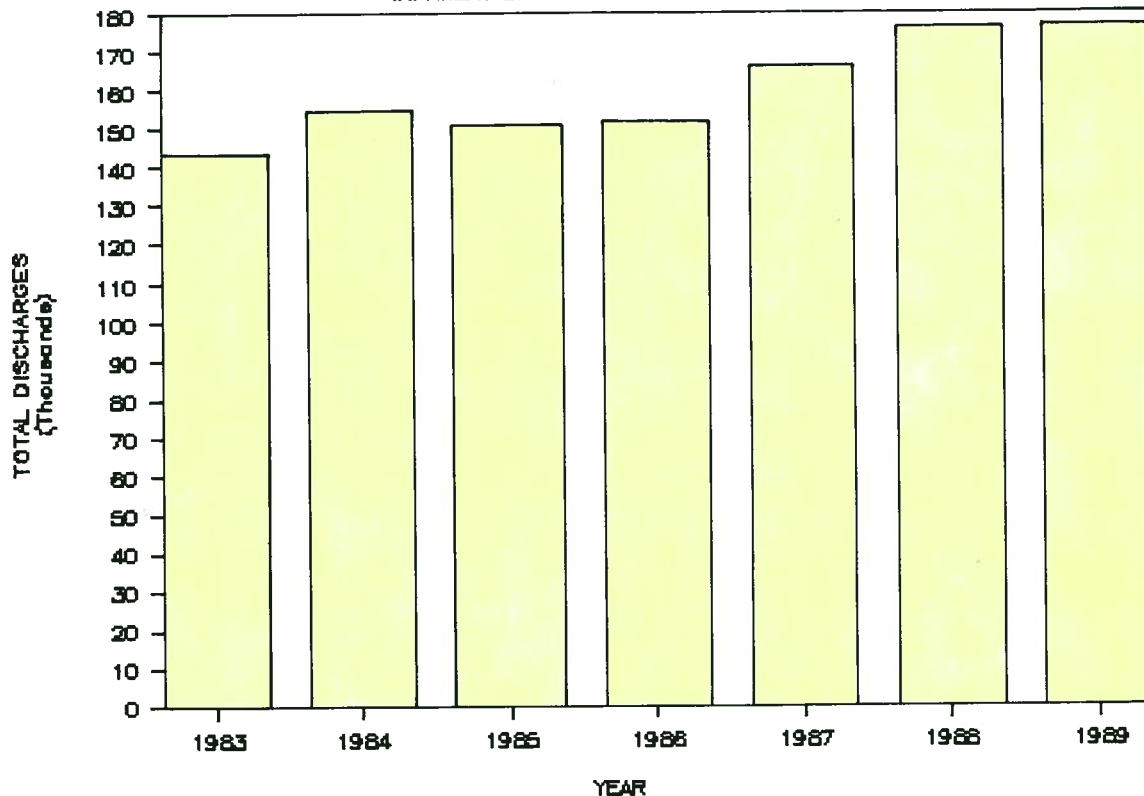
(1) Total attendances divided by 365 days except New Al Khodh with 231 days and Muqshan Health Centre with 31 days.

* New Al Khodh started functioning effective May 15 and Muqshan Health Centre effective December 1, 1989.

** Closed from June to August, 1989.

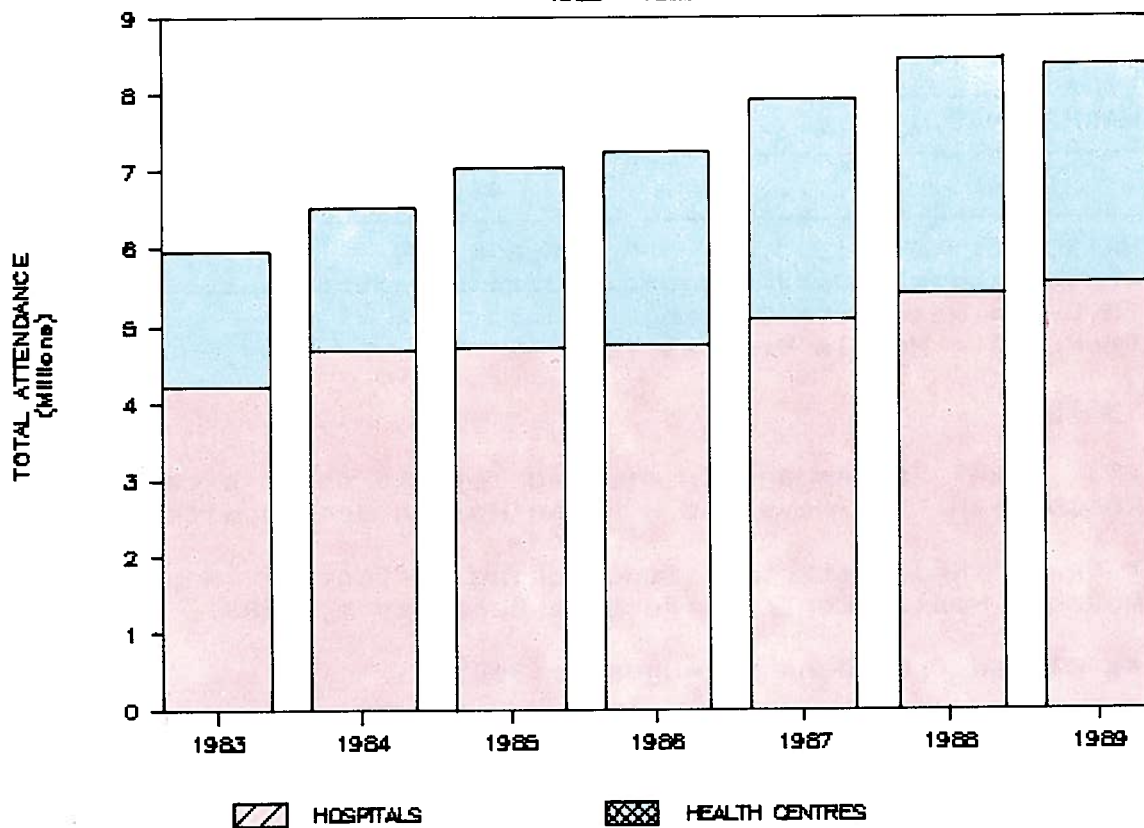
MINISTRY OF HEALTH HOSPITALS

INPATIENT DISCHARGES - 1983 - 1989



OUTPATIENT ATTENDANCE

1983 - 1989



3 MORBIDITY

The morbidity groups of all inpatients discharged from hospitals in 1989 is shown in Table 3.1. This is the number of discharges for the 18 standard Disease Groups. While not an illness, Normal Deliveries (Group 11b) had the largest number of discharges in 1989, accounting for 37% of all female discharges.

Of the disease groups, those of the respiratory system (Group 8) accounted for the highest proportion of cases with over 22 thousand patients. The infectious diseases (Group 1) showed a marked decrease from 1988 with the number of cases falling from 22 thousand in 1988 to 18.6 thousand in 1989. This was mainly due to a fall in the number of malaria cases which fell from its high of 6,793 in 1988 to 4,367 in 1989 - close to the 1987 figure of 4,918. The main cause of infectious diseases continued to be gastro-enteritis and diarrhoea. However, the 7,049 cases were a 15% reduction over the 8,267 admissions of 1988, which had already been a 7% reduction from 1987; this trend may be attributable to the Oral Rehydration Programme, which promotes an outpatient treatment of diarrhoeal diseases.

The next highest cause of inpatient admission was injuries and poisoning for which 13 thousand cases were admitted. This was a 6 % increase over the 1988 figure which was itself 11% higher than the number of admissions in 1987. The three most common causes are, firstly, non-specific injuries (i.e. excluding fractures, open wounds and burns) followed by poisonings and , thirdly, fractures of the humerus, radius and ulna.

The regional distribution of inpatient morbidity is shown in Tables 3.2 and 3.3. Table 3.2 shows the numbers of patients treated for each disease in each region in 1989, i.e. the workload on the hospitals in each region. However, each region has a different sized population and so the numbers of admissions do not reflect the pattern of morbidity around the country. In order to compare the regional morbidity patterns, Table 3.3 shows the rate of admissions per 10,000 population in each region.

Thus admissions for gastroenteritis and diarrhoea are highest by far in Sharqiya and Musandam, while being relatively low in both the Muscat and Batinah regions. (It must be remembered that some of the hospitals of the Muscat region are referral hospitals which take cases from all over the Sultanate. Hence high rates for Muscat e.g. for malignancies, do not necessarily imply a higher than expected incidence of a disease.)

The pattern of inpatient morbidity only reflects the distribution of the more serious diseases that require admission for treatment. Table 3.4 shows the conditions treated on an outpatient basis in both hospitals and health centres. It should reflect the incidence of each disease as a "new case" is defined as the first visit during the episode of an illness i.e. multiple visits for the same problem are not included. However, it is recognised that some hospitals and health centres do not strictly adhere to this definition and hence the figures may not reflect the true incidence of each disease.

There was a total of 5.6 million "new visits" during 1989, a 3% increase over the 5.4 million of 1988. Diseases of the respiratory system accounted for 1.8 million cases, which was the largest proportion (33%) of all "new cases". Infectious diseases accounted for 494 thousand cases, the major diseases being gastroenteritis (280 thousand), malaria (40 thousand), chickenpox and trachoma (17 thousand each). This demonstrates the importance of the control programmes currently in operation to control diarrhoeal diseases, malaria and trachoma. There were wide regional variations in these diseases - Sharqiya having the highest rate for gastroenteritis, Dhahirah and Sharqiya for malaria and Dhakilya for trachoma.

The numbers of cases of notifiable diseases reported from 1985 to 1989 are shown in Table 3.5. This only includes cases notified, and is not necessarily the complete incidence of the disease. Influenza had by far the highest number of cases, followed by chicken-pox, mumps and malaria. While the notifications of some diseases have declined consistently (e.g. tuberculosis, diphtheria, tetanus), others have reached what may be their endemic levels with fluctuations up or down each year (e.g. typhoid, amoebiasis, brucellosis, measles, mumps).

TREATMENT ABROAD

Under the Government's commitment to provide free medical treatment, patients who cannot be treated locally are sent for treatment abroad by the Ministry of Health. Details of patients treated abroad in 1989 are shown in Table 3.6.

A total of 436 patients were treated abroad, which was 30% lower than the 621 in 1988. The principal countries used were the U.K.(42%), Jordan (29%) and India (22%).

The highest proportion of conditions were Cardiac cases, comprising 53% of the total sent abroad. Neoplastic (19%), Ophthalmic (9%), Nephrological/Urological (5.5%) and Neurological (4%) conditions were the other main causes for treatment abroad.

The number of "Other investigations" fell sharply from 52 in 1988 to only 3 in 1989.

TABLE 3.1 INPATIENT MORBIDITY STATISTICAL REPORT

GENERAL GROUPS

ALL HOSPITALS

COMPARISON OF 1989 AND 1988

ICD GROUP CODE	DISEASE / CONDITION	TOTAL DISCHARGES IN 1989 (alive and dead)			TOTAL IN 1988	% CHANGE	DEATHS IN 1989	CASE FATALITY RATE
		MALE	FEMALE	TOTAL				
1	INFECTIOUS AND PARASITIC DISEASES	10,225	8,457	18,682	22,262	-16%	170	1%
2	NEOPLASMS.....	909	940	1,849	1,651	12%	182	10%
3	ENDOCRINE, NUTRITIONAL, METABOLIC & IMMUNITY DISORDERS:.....	1,211	1,488	2,699	2,644	2%	32	1%
4	DISEASES OF THE BLOOD & BLOOD-FORMING ORGANS :.....	1,951	1,778	3,729	3,371	11%	21	1%
5	MENTAL DISORDERS	658	636	1,294	1,222	6%	5	0%
6	DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS:.....	3,717	2,678	6,395	5,912	8%	86	1%
7	DISEASES OF THE CIRCULATORY SYSTEM :.....	4,976	4,055	9,031	8,805	3%	617	7%
8	DISEASES OF THE RESPIRATORY SYSTEM :.....	12,366	10,340	22,706	23,604	-4%	170	1%
9	DISEASES OF THE DIGESTIVE SYSTEM	5,188	4,433	9,621	9,498	1%	84	1%
10	DISEASES OF THE GENITOURINARY SYSTEM :.....	3,411	5,002	8,413	8,809	-4%	62	1%
11A	COMPLICATIONS OF PREGNANCY & BIRTH	0	16,843	16,843	15,643	8%	2	0%
11B	NORMAL DELIVERY.....	0	40,292	40,292	39,317	2%	1	0%
12	DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE :.....	2,895	1,346	4,241	3,483	22%	0	0%
13	DISEASES OF THE MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE:...	1,688	1,264	2,952	2,780	6%	4	0%
14	CONGENITAL ANOMALIES	1,064	644	1,708	1,468	16%	98	6%
15	CONDITIONS ORIGINATING IN THE PERINATAL PERIOD :.....	1,874	1,625	3,499	3,503	-0%	274	8%
16	SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS :.....	4,723	3,578	8,301	9,366	-11%	93	1%
17	INJURIES AND POISONING:.....	9,436	4,117	13,553	12,812	6%	137	1%
18	(V-CODES) OTHER REASONS FOR CONTACT WITH HEALTH SERVICES.....	640	375	1,015	731	39%	3	0%
TOTAL.....		66,932	109,891	176,823	176,881	-0.03%	2,401	1.2%

TABLE 3.2

MORBIDITY OF INPATIENT DISCHARGES IN 1989 BY MAJOR DISEASE GROUPS AND REGIONS
AND INDIVIDUAL DISEASE GROUPS WITH 1,000 OR MORE DISCHARGES

		TOTAL DISCHARGES IN 1989								
ICD CODE GROUP	DISEASE/CONDITION GROUP	NATIONAL TOTAL	MUSCAT	JANUBIA	DAKHILYA	SHARQIYA	BATINAH (NORTH)	BATINAH (SOUTH)	DHAHIRA	MUSANDAM
	1 INFECTIOUS AND PARASITIC DISEASES :.....	18,682	2,584	1,186	2,860	5,522	2,200	1,086	2,604	640
019.1	ACUTE GASTRO-ENTERITIS AND DIARRHOEA	7,049	1,121	518	1,127	2,155	842	405	655	226
052	MALARIA	4,367	246	7	569	1,471	880	239	934	21
049.5	VIRAL DISEASES NOS	2,838	133	137	454	964	146	116	660	228
	2 NEOPLASMS :.....	1,849	1,362	104	95	105	63	36	68	16
	3 ENDOCRINE, NUTRITIONAL, METABOLIC AND IMMUNITY DISORDERS:....	2,699	962	217	327	354	254	250	260	75
181	DIABETES MELLITUS	1,790	583	145	225	244	219	92	216	66
	4 DISEASES OF THE BLOOD & BLOOD-FORMING ORGANS :.....	3,729	1,668	206	589	290	362	177	374	63
200.1	ANAEMIAS NOS	2,560	1,407	140	354	201	124	130	159	45
	5 MENTAL DISORDERS :.....	1,294	666	173	174	157	17	6	62	39
	6 DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS:.....	6,395	2,679	396	1,142	857	452	207	528	134
231	CATARACT	1,333	627	101	122	225	45	44	151	18
239.3	OTHER DISEASES OF EYE & ADNEXA	1,067	428	45	218	110	93	26	136	11
	7 DISEASES OF THE CIRCULATORY SYSTEM :.....	9,031	2,537	654	1,406	1,414	1,334	420	964	302
279.1	ISCHAEMIC HEART DISEASES NOS	2,476	558	127	374	286	743	49	288	51
269.1	HYPERTENSIVE DISEASES NOS	1,766	306	140	422	309	285	36	121	147
289.2	DISEASES OF PULMONARY CIRCULATION & HEART NOS	1,349	516	163	200	183	0	79	178	30

MORBIDITY OF INPATIENT DISCHARGES IN 1989 BY MAJOR DISEASE GROUPS AND REGIONS
AND INDIVIDUAL DISEASE GROUPS WITH 1,000 OR MORE DISCHARGES

TABLE 3.2 (cont)

		TOTAL DISCHARGES IN 1989								
ICD CODE GROUP	DISEASE/CONDITION GROUP	NATIONAL TOTAL	MUSCAT	JANUBIA	DAKHILYA	SHARQIYA	BATINAH (NORTH)	BATINAH (SOUTH)	DHAHIRA	MUSANDAM
8	DISEASES OF THE RESPIRATORY SYSTEM :.....	22,706	3,849	2,411	3,667	6,652	2,479	1,228	1,680	740
312	ACUTE UPPER RESPIRATORY INFECTIONS NOS	6,376	305	611	745	2,053	1,589	616	348	109
323	BRONCHITIS, CHRONIC & UNSPECIFIED, EMPHYSEMA & ASTHMA	3,911	643	510	631	1,355	162	110	300	200
321	PNEUMONIA	3,184	682	284	838	930	161	89	134	66
320	ACUTE BRONCHITIS & BRONCHIOLITIS	2,792	228	331	464	1,307	134	75	150	103
310	ACUTE TONSILLITIS	1,548	87	193	357	495	197	23	86	110
319.3	DISEASES OF THE UPPER RESPIRATORY TRACT NOS	1,348	146	14	259	135	110	183	455	46
315	CHRONIC DISEASES OF TONSILS AND ADENOIDS	1,004	727	142	11	40	40	4	37	3
9	DISEASES OF THE DIGESTIVE SYSTEM :.....	9,621	2,683	934	1,373	1,886	879	564	996	306
349.1	GASTRITIS AND DUODENITIS	3,032	279	243	500	911	226	252	488	133
349.3	DISEASES OF DIGESTIVE SYSTEM NOS	2,533	841	315	435	445	132	119	138	108
342	APPENDICITIS	1,359	453	162	155	180	178	76	126	29
343	HERNIA OF ABDOMINAL CAVITY	1,174	525	108	112	147	139	37	85	21
10	DISEASES OF THE GENITOURINARY SYSTEM :.....	8,413	3,178	609	1,026	1,430	680	479	683	328
359.2	DISEASES OF URINARY SYSTEM NOS	2,521	396	143	511	687	223	204	267	90
379.2	DISEASES OF FEMALE GENITAL ORGANS NOS	1,401	891	155	39	165	57	21	54	19
11A	COMPLICATIONS OF PREGNANCY & BIRTH :.....	16,844	5,761	1,929	2,227	2,561	1,705	958	1,434	249
389.3	ABORTIONS NOS	4,641	1,284	504	450	598	895	412	406	92
399.3	DIRECT OBSTETRIC CAUSES NOS	4,112	2,411	491	330	420	192	20	222	26
40	INDIRECT OBSTETRIC CAUSES	2,174	618	557	156	227	185	58	328	45
399.0	EARLY OR THREATENED LABOUR	1,658	349	131	447	187	244	123	148	29
11B	NORMAL DELIVERIES.....	40,292	9,896	2,523	5,106	6,747	8,165	4,224	3,067	564

MORBIDITY OF INPATIENT DISCHARGES IN 1989 BY MAJOR DISEASE GROUPS AND REGIONS
AND INDIVIDUAL DISEASE GROUPS WITH 1,000 OR MORE DISCHARGES

TABLE 3.2 (cont)

TOTAL DISCHARGES IN 1989

ICD CODE GROUP	DISEASE/CONDITION GROUP	NATIONAL TOTAL	MUSCAT	JANUBIA	DAKHILYA	SHARQIYA	BATINAH (NORTH)	BATINAH (SOUTH)	DHAHIRA	MUSANDAM
12	DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE :.....	4,241	2,289	197	526	534	155	151	285	104
13	DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE :	2,952	1,192	320	365	321	288	162	174	130
14	CONGENITAL ANOMALIES :.....	1,708	1,334	50	70	84	64	49	43	14
15	CONDITIONS ORIGINATING IN THE PERINATAL PERIOD :.....	3,498	1,282	311	501	510	448	234	184	28
452	SLOW FETAL GROWTH, FETAL MALNUTRITION & IMMATUREITY	1,574	457	85	249	216	441	51	67	8
459.3	CONDITIONS ORIGINATING IN THE PERINATAL PERIOD NOS	1,063	543	80	142	127	4	124	40	3
16	SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS :.....	8,301	2,552	894	1,021	1,281	1,012	525	703	313
469.4	SIGNS, SYMPTOMS & ILL-DEFINED CONDITIONS NOS	3,009	908	253	379	320	417	147	409	176
462	RENAL COLIC	1,536	477	203	292	202	96	107	124	35
464	EPIGASTRIC PAIN	1,117	422	152	83	145	192	29	49	45
	PYREXIA OF UNKNOWN ORIGIN	1,079	30	154	92	447	127	145	41	43
17	INJURIES AND POISONING:.....	13,553	3,718	924	2,688	1,987	1,484	1,058	1,380	314
55	INJURIES, EARLY COMPLICATIONS OF TRAUMA NOS	2,982	396	96	1,070	612	8	157	578	65
53	POISONING & TOXIC EFFECTS	1,641	209	157	273	306	293	137	221	45
472	FRACTURE OF HUMERUS, RADIUS & ULNA	1,018	386	71	142	76	174	73	82	14
56	LATE EFFECTS OF INJURIES, POISONINGS, TOXIC EFFECTS ETC	1,018	201	99	271	155	3	152	102	35
18	(V-CODES) OTHER REASONS FOR CONTACT WITH HEALTH SERVICES.....	1,015	543	7	18	0	0	0	109	338
TOTAL DISCHARGES :.....		176,823	50,735	14,045	25,181	32,712	22,041	11,814	15,598	4,697

TABLE 3.3

MORBIDITY OF INPATIENT DISCHARGES IN 1989 BY MAJOR DISEASE GROUPS AND REGIONS
AND INDIVIDUAL DISEASE GROUPS WITH 1,000 OR MORE DISCHARGES

RATES OF DISCHARGE PER 10,000 POPULATION

ICD CODE GROUP	DISEASE/CONDITION GROUP	NATIONAL TOTAL	MUSCAT	JANUBIA	DAKHILYA	SHARQIYA	BATINAH (NORTH)	BATINAH (SOUTH)	DHAHIRA	MUSANDAM
	1 INFECTIOUS AND PARASITIC DISEASES :.....	114	57	73	155	257	75	78	172	183
019.1	ACUTE GASTRO-ENTERITIS AND DIARRHOEA	43	25	32	61	100	29	29	43	65
052	MALARIA	27	5	0	31	68	30	17	62	6
049.5	VIRAL DISEASES NOS	17	3	8	25	45	5	8	44	65
	2 NEOPLASMS :.....	11	30	6	5	5	2	3	5	5
	3 ENDOCRINE, NUTRITIONAL, METABOLIC AND IMMUNITY DISORDERS:....	16	21	13	18	16	9	18	17	21
181	DIABETES MELLITUS	11	13	9	12	11	7	7	14	19
	4 DISEASES OF THE BLOOD & BLOOD-FORMING ORGANS :.....	23	36	13	32	13	12	13	25	18
200.1	ANAEMIAS NOS	16	31	9	19	9	4	9	11	13
	5 MENTAL DISORDERS :.....	8	15	11	9	7	1	0	4	11
	6 DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS:.....	39	59	24	62	40	15	15	35	38
231	CATARACT	8	14	6	7	10	2	3	10	5
239.3	OTHER DISEASES OF EYE & ADNEXA	7	9	3	12	5	3	2	9	3
	7 DISEASES OF THE CIRCULATORY SYSTEM :.....	55	56	40	76	66	45	30	64	86
279.1	ISCHAEMIC HEART DISEASES NOS	15	12	8	20	13	25	4	19	15
269.1	HYPERTENSIVE DISEASES NOS	11	7	9	23	14	10	3	8	42
289.2	DISEASES OF PULMONARY CIRCULATION & HEART NOS	8	11	10	11	9	0	6	12	9

MORBIDITY OF INPATIENT DISCHARGES IN 1989 BY MAJOR DISEASE GROUPS AND REGIONS
AND INDIVIDUAL DISEASE GROUPS WITH 1,000 OR MORE DISCHARGES

RATES OF DISCHARGE PER 10,000 POPULATION

ICD CODE GROUP	DISEASE/CONDITION GROUP	NATIONAL TOTAL	MUSCAT	JANUBIA	DAKHILYA	SHARQIYA	BATINAH (NORTH)	BATINAH (SOUTH)	DHAHIRA	MUSANDAM
8	DISEASES OF THE RESPIRATORY SYSTEM	139	84	149	199	309	84	89	111	211
312	ACUTE UPPER RESPIRATORY INFECTIONS NOS	39	7	38	40	95	54	44	23	31
323	BRONCHITIS, CHRONIC & UNSPECIFIED, EMPHYSEMA & ASTHMA	24	14	31	34	63	5	8	20	57
321	PNEUMONIA	19	15	18	46	43	5	6	9	19
320	ACUTE BRONCHITIS & BRONCHIOLITIS	17	5	20	25	61	5	5	10	29
310	ACUTE TONSILLITIS	9	2	12	19	23	7	2	6	31
319.3	DISEASES OF THE UPPER RESPIRATORY TRACT NOS	8	3	1	14	6	4	13	30	13
315	CHRONIC DISEASES OF TONSILS AND ADENOIDS	6	16	9	1	2	1	0	2	1
9	DISEASES OF THE DIGESTIVE SYSTEM	59	59	58	75	88	30	41	66	87
349.1	GASTRITIS AND DUODENITIS	19	6	15	27	42	8	18	32	38
349.3	DISEASES OF DIGESTIVE SYSTEM NOS	15	18	19	24	21	4	9	9	31
342	APPENDICITIS	8	10	10	8	8	6	5	8	8
343	HERNIA OF ABDOMINAL CAVITY	7	11	7	6	7	5	3	6	6
10	DISEASES OF THE GENITOURINARY SYSTEM	51	70	38	56	67	23	35	45	94
359.2	DISEASES OF URINARY SYSTEM NOS	15	9	9	28	32	8	15	18	26
379.2	DISEASES OF FEMALE GENITAL ORGANS NOS	9	19	10	2	8	2	2	4	5
11A	COMPLICATIONS OF PREGNANCY & BIRTH	103	126	119	121	120	58	69	95	71
389.3	ABORTIONS NOS	28	28	31	24	28	30	30	27	26
399.3	DIRECT OBSTETRIC CAUSES NOS	25	53	30	18	20	7	1	15	7
40	INDIRECT OBSTETRIC CAUSES	13	14	34	8	11	6	4	22	13
399.0	EARLY OR THREATENED LABOUR	10	8	8	24	9	8	9	10	8
11B	NORMAL DELIVERIES.....	246	217	156	277	314	276	305	203	161

MORBIDITY OF INPATIENT DISCHARGES IN 1989 BY MAJOR DISEASE GROUPS AND REGIONS
AND INDIVIDUAL DISEASE GROUPS WITH 1,000 OR MORE DISCHARGES

RATES OF DISCHARGE PER 10,000 POPULATION

ICD CODE GROUP	DISEASE/CONDITION GROUP	NATIONAL TOTAL	MUSCAT	JANUBIA	DAKHILYA	SHARQIYA	BATINAH (NORTH)	BATINAH (SOUTH)	DHAHIRA	MUSANDAM
12	DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE :.....	26	50	12	29	25	5	11	19	30
13	DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE :	18	26	20	20	15	10	12	12	37
14	CONGENITAL ANOMALIES :.....	10	29	3	4	4	2	4	3	4
15	CONDITIONS ORIGINATING IN THE PERINATAL PERIOD :.....	21	28	19	27	24	15	17	12	8
452	SLOW FETAL GROWTH, FETAL MALNUTRITION & IMMATUREITY	10	10	5	14	10	15	4	4	2
459.3	CONDITIONS ORIGINATING IN THE PERINATAL PERIOD NOS	6	12	5	8	6	0	9	3	1
16	SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS :.....	51	56	55	55	60	34	38	47	89
469.4	SIGNS, SYMPTOMS & ILL-DEFINED CONDITIONS NOS	18	20	16	21	15	14	11	27	50
462	RENAL COLIC	9	10	13	16	9	3	8	8	10
464	EPIGASTRIC PAIN	7	9	9	5	7	7	2	3	13
	PYREXIA OF UNKNOWN ORIGIN	7	1	10	5	21	4	10	3	12
17	INJURIES AND POISONING:.....	83	81	57	146	92	50	76	91	90
55	INJURIES, EARLY COMPLICATIONS OF TRAUMA NOS	18	9	6	58	28	0	11	38	19
53	POISONING & TOXIC EFFECTS	10	5	10	15	14	10	10	15	13
472	FRACTURE OF HUMERUS, RADIUS & ULNA	6	8	4	8	4	6	5	5	4
56	LATE EFFECTS OF INJURIES, POISONINGS, TOXIC EFFECTS ETC	6	4	6	15	7	0	11	7	10
18	(V-CODES) OTHER REASONS FOR CONTACT WITH HEALTH SERVICES.....	6	12	0	1	0	0	0	7	97
TOTAL DISCHARGES :.....		1,080	1,110	867	1,369	1,521	746	852	1,033	1,342

TABLE 3.4

AMBULATORY CARE MORBIDITY - 1989**"NEW CASES" DIAGNOSED IN HOSPITAL OUTPATIENT
DEPARTMENTS AND HEALTH CENTRES**

ICD CODE	DISEASE/CONDITION	T O T A L
011	Typhoid fever.....	4
012	Shigellosis (bacillary dysentery).....	2,979
013	Food poisoning (including salmonella).....	567
014	Amoebiasis.....	5,436
019.1	Acute gastro-enteritis and diarrhoea.....	280,211
019.2	Other intestinal infections.....	52,175
020	Pulmonary tuberculosis.....	539
029.1	Tuberculosis of other organs.....	0
029.1	Tuberculosis of other organs.....	88
031	Brucellosis.....	135
032	Leprosy.....	18
033	Diphtheria.....	0
034	Whooping cough.....	309
035	Streptococcal sore throat, scarlatina & erysipelas.....	8,617
036	Meningococcal infection.....	0
037	Tetanus.....	5
038	Septicaemia.....	103
040	Acute poliomyelitis.....	2
042	Measles.....	4,255
043	Rubella.....	54
046	Viral hepatitis.....	1,390
048	Trachoma.....	16,868
049.1	Chicken-pox.....	16,729
049.2	Herpes.....	17
049.3	Mumps.....	15,167
049.5	Other viral diseases.....	23,920
052	Malaria.....	39,762
053	Leishmaniasis.....	0
06	Venereal diseases.....	1,134
070	Non-syphilitic spirochaetal diseases.....	0
071	Mycosis.....	245
072	Schistosomiasis.....	43
074	Filarial infection & dracontiasis.....	42
076	Other helminthiasis.....	23,208
078	Late effects of acute poliomyelitis.....	162
079.0	Pediculosis & phthirus infestation.....	138
079.1	Other infectious & parasitic diseases.....	0
08	Malignant neoplasm of lip,oral cavity & pharynx...	1
091	Malignant neoplasm of stomach.....	15
093	Malignant neoplasm of colon.....	3
094	Malignant neoplasm of rectum and anus.....	1
099.1	Malignant neoplasm of other sites of digestive organs.....	1
101	Malignant neoplasm of trachea,bronchus and lung...	1
109.0	Malignant neoplasm of other respiratory organs....	4

ICD CODE	DISEASE/CONDITION	T O T A L
111	Malignant melanoma of skin.....	0
113	Malignant neoplasm of female breast.....	1
119.0	Other malignant neoplasm of bone, skin, breast....	0
120	Malignant neoplasm of cervix uteri.....	5
129.0	Malignant neoplasm of other female genital organs.	7
129.1	Malignant neoplasm of male genital organs.....	0
129.2	Malignant neoplasm of urinary organs.....	0
13	Malignant neoplasm of other & unspecified sites...	40
141	Leukaemia.....	1
149.0	Other malignant neoplasm of lymphatic & haemopoietic tissue.....	0
151	Benign neoplasm of breast.....	9
152	Benign neoplasm of uterus.....	9
159.0	Other benign neoplasm.....	115
17	Other & unspecified neoplasm.....	145
180.0	Simple and unspecified goitre.....	356
180.1	Other disorders of thyroid gland.....	14
181	Diabetes mellitus.....	5,590
189.0	Other diseases of other endocrine glands.....	26
189.1	Gout.....	0
189.2	Other metabolic diseases and immunity disorders...	211
190	Kwashiorkor.....	21
191	Nutritional marasmus.....	3,814
192	Other protein-calorie malnutrition.....	339
193	Avitaminosis.....	103
200	Anaemias.....	25,992
209.0	Other diseases of blood & blood forming organs....	1,350
218	Mental retardation.....	429
219.0	Other mental disorders.....	2,450
220	Meningitis.....	114
221	Parkinson's disease.....	84
223	Multiple sclerosis.....	1
225	Epilepsy.....	784
229.0	Hemiplegia.....	14
229.1	Other inflammatory diseases of C.N.S.....	2,558
229.2	Other hereditary & degenerative diseases of CNS...	733
229.3	Disorders of the peripheral nervous system.....	56
230	Glaucoma.....	3,127
231	Cataract.....	7,069
232	Blindness and low vision.....	29,179
233	Conjunctivitis.....	265,256
235	Strabismus.....	770
239.0	Other disorders of refraction and vision.....	27,996
239.1	Corneal opacity & other disorders of cornea.....	2,208
239.2	Other disorders of conjunctiva.....	691
239.3	Other diseases of eye & adnexa.....	18,793
240	Otitis media & mastoiditis	10,892
241	Deafness.....	1,329
249	Discharging ear.....	96,679
249.0	Other diseases of the ear & mastiod process.....	6,386

ICD CODE	DISEASE/CONDITION	T O T A L
250	Acute rheumatic fever.....	115
251	Chronic rheumatic heart disease.....	292
260	Hypertensive heart disease.....	7,617
269.1	Other hypertensive diseases.....	3,960
270	Acute myocardial infarction.....	83
279.0	Angina pectoris.....	45
279.1	Other ischaemic heart diseases.....	547
281	Cardiac dysrhythmias.....	0
289.0	Acute pericarditis.....	1
289.2	Other diseases of pulmonary circulation & heart...	4,229
299.0	Other cerebrovascular diseases.....	253
300	Atherosclerosis.....	0
302	Other diseases of arteries/arterioles/capillaries.	0
303	Phlebitis, thrombophlebitis & thrombosis.....	81
304	Varicose veins of lower extremities.....	867
305	Haemorrhoids.....	3,574
309.0	Hypotension.....	325
309.1	Other diseases of circulatory system.....	713
310	Acute tonsillitis.....	215,274
311	Acute laryngitis & tracheitis.....	7,102
312	Other acute upper respiratory infections.....	1,267,600
313	Deflected nasal septum & nasal polyps.....	3,488
314	Chronic pharyngitis, nasopharyngitis & sinusitis..	38,811
315	Enlarged tonsils.....	17,124
319.0	Peritonsillar abscess.....	3
319.1	Chronic laryngitis & laryngotracheitis.....	2,715
319.2	Allergic rhinitis.....	57,108
319.3	Other diseases of the upper respiratory tract.....	1,342
320	Acute bronchitis & bronchiolitis.....	57,263
321	Pneumonia.....	2,925
322	Influenza.....	98,731
323	Bronchitis chronic, emphysema & asthma.....	39,026
324	Bronchiectasis.....	184
325	Other chronic obstructive pulmonary disease.....	9
326	Lung disease due to external agents.....	5
327	Pleurisy.....	65
329.0	Other diseases of respiratory system (empyema etc)	8,441
330	Diseases of teeth & supporting structures.....	240,165
331	Diseases of the jaws.....	69
339.0	Diseases of salivary glands/oral tissues & tongue.	4,725
341	Ulcer of stomach & duodenum.....	1,022
342	Appendicitis.....	1,526
343	Hernia of abdominal cavity.....	1,856
344	Intestinal obstruction without mention of hernia..	104
347	Chronic liver disease & cirrhosis.....	333
349.0	Gastrojejunal ulcer.....	92
349.1	Gastritis and duodenitis.....	120,844
349.2	Intestinal malabsorption.....	839
349.3	Other diseases of other parts of digestive system.	32,099

ICD CODE	DISEASE/CONDITION	T O T A L
350	Nephritis, nephrotic syndrome & nephrosis.....	291
351	Infections of kidney.....	5,241
352	Urinary calculus.....	954
353	Cystitis.....	6,497
359.0	Hydronephrosis.....	34
359.1	Urethral stricture.....	398
359.2	Other diseases of urinary system.....	16,645
360	Hyperplasia of prostate.....	243
361	Hydrocele.....	681
362	Redundant prepuce & phimosis.....	817
363	Infertility, male.....	766
369.0	Inflammatory diseases of prostate.....	280
369.1	Orchitis & epididymitis.....	800
369.2	Other diseases of male genital organs.....	295
370	Diseases of breast.....	3,247
371	Salpingitis and oophoritis.....	3
374	Uterovaginal prolapse.....	29
375	Menstrual disorders.....	26,482
376	Infertility, female.....	1,535
379.1	Fistulae involving female genital tract.....	83
379.2	Other diseases of female genital organs.....	1,362
380	Spontaneous abortion.....	830
389.0	Hydatidiform mole.....	0
389.1	Missed abortions.....	7
389.2	Ectopic pregnancy.....	40
389.3	Other abortions.....	149
390	Haemorrhage of pregnancy & childbirth.....	784
391	Toxaemia of pregnancy.....	1,198
392	Infections of genitourinary tract in pregnancy....	2,835
393	Obstructed labour.....	11
394	Complications of puerperium.....	383
399.0	Early or threatened labour	1,323
399.1	Prolonged pregnancy.....	84
399.2	Umbilical cord complications.....	1,655
399.3	Other direct obstetric causes.....	3,894
40	Indirect obstetric causes.....	248
42	Diseases of skin and subcutaneous tissue.....	416,144
430	Rheumatoid arthritis, except spine.....	13,836
437	Acquired deformities of limbs.....	136
439.0	Other diseases of the musculoskeletal system.....	293,311
440	Spina bifida & hydrocephalus.....	60
442	Congenital anomalies of heart & circulatory system	229
443	Cleft palate and cleft lip.....	127
444	Other deformities of digestive system.....	3
445	Undescended testicle.....	177
446	Congenital dislocation of hip.....	70
449.0	Other congenital anomalies.....	222
450	Maternal conditions affecting fetus or newborn....	20
451	Obstetric complications affecting fetus or newborn	53
452	Slow fetal growth, fetal malnutrition & immaturity	187
455	Haemolytic disease of fetus or newborn.....	47
459.1	Tetanus neonatorum.....	0
459.3	Other conditions in the perinatal period.....	82

ICD CODE	DISEASE/CONDITION	T O T A L
460	Pyrexia of unknown origin.....	79,894
462	Renal colic.....	8,515
463	Retention of urine.....	1,152
464	Epigastric pain.....	251,832
465	Senility without mention of psychosis.....	873
467	Respiratory failure.....	6
469.0	Convulsions.....	461
469.2	Gangrene.....	31
469.3	Ascites.....	30
469.4	Other signs, symptoms & ill-defined conditions....	737,974
470	Fracture of skull & face.....	465
471	Fracture of neck & trunk.....	640
472	Fracture of humerus, radius and ulna.....	2,814
473	Fracture of neck of femur.....	517
474	Fracture of other parts of femur.....	425
475	Fracture of tibia, fibula and ankle.....	1,144
476	Other fractures of limbs.....	3,210
48	Dislocations, sprains & strains.....	6,468
490	Concussions.....	643
499.0	Internal injury of chest, abdomen & pelvis.....	156
499.1	Other internal injuries incl. nerves, spinal cord.	202
500	Open wound of eye, ear & head.....	14,232
501	Open wound of upper limb.....	32,777
502	Open wound of lower limb.....	50,655
51	Effects of foreign body entering through orifice..	11,059
520	Burn confined to eye & adnexa.....	170
521	Burn of wrist & hand.....	4,598
529.0	Burns of face, head, trunk & other parts of limbs.	4,116
529.1	Other burns.....	11,152
53	Poisoning & toxic effects.....	21,838
54	Complications of medical & surgical care.....	1,154
55	Other injuries.....	275,898
56	Late effects of injuries and poisonings.....	606
V-CODE	Other reasons for contact with health services....	7,204
T O T A L ' N E W C A S E S '.....		5,591,425
R E - A T T E N D A N C E C A S E S		2,786,817
G R A N D T O T A L (NEW & RE-ATTENDANCE).....		8,378,242

TABLE 3.5
NOTIFICATIONS OF INFECTIOUS DISEASES 1985-1989

(Hospital inpatient cases except where indicated)

(ICD-9) :	DISEASE	1985	1986	1987	1988	1989
BTL No. :						
011	: Typhoid fever	244	168	131	117	178
012	: Shigellosis (bacillary dysentery) *	4,276	3,332	2,457	2,224	2,979
013	: Food poisoning (including salmonella)	319	262	221	208	147
014	: Amoebiasis *	3,787	4,048	3,833	3,833	5,436
019.0	: Paratyphoid fevers	21	26	36	36	25
02	: Tuberculosis (all forms) **	1,229*	700	616	477	478
031	: Brucellosis	260	186	229	292	224
032	: Leprosy *	32	21	6	15	18
033	: Diphtheria **	6	4	0	0	0
034	: Whooping cough	765*	207*	5**	16**	25**
036	: Meningococcal infection	9	7	126	41	33
037	: Tetanus (other than neonatal)	64	24	10	11	11
039.0	: Anthrax	0	1	2	2	1
040	: Acute poliomyelitis	33	9**	6**	118**	5**
042	: Measles *	3,675	2,001	3,804	6,052	4,255
043	: Rubella *	10	1	77	175	54
046	: Viral hepatitis *	2,118	2,223	1,826	1,688	1,390
049.1	: Chicken-pox *	5,955	8,814	14,616	23,381	16,729
049.3	: Mumps *	18,040	8,778	5,192	11,169	15,167
052	: Malaria **	16,348	16,420	15,437	24,780	17,867
053	: Leishmaniasis	23	17	32	11	27
060	: Syphilis	12	2	5	8	5
061	: Gonococcal infection	8	10	6	5	6
072	: Schistosomiasis *	5	47	17	44	43
074	: Filarial infection *	20	7	19	82	42
322	: Influenza *	91,373	83,604	101,358	120,208	98,731
459.1	: Tetanus neonatorum **	11	11	8	1	0

* Outpatient cases

** Confirmed cases

No case was reported of the diseases under international surveillance
i.e. cholera, louseborne typhus, plague, rabies, relapsing fever,
small-pox & yellow fever.

TABLE 3.6

PATIENTS TREATED ABROAD BY DISEASE AND COUNTRY OF TREATMENT - 1989

CONDITIONS TREATED	U.K	INDIA	JORDAN	KUWAIT	OTHER COUNTRIES	TOTAL CASES		
						1989	1988	1987
Cardiac.....	106	0	123	2	0	231	256	189
Neoplasms.....	4	56	1	20	0	81	61	73
Ophthalmic.....	33	5	0	0	2	40	96	52
Neurology.....	8	8	0	1	0	17	32	38
Nephrology & Urology.....	6	18	0	0	0	24	21	29
Orthopaedics.....	9	4	0	0	1	14	21	20
Haematology.....	2	0	0	5	0	7	15	19
Gastro-intestinal/abdominal	7	0	0	0	0	7	18	8
ENT.....	3	0	0	0	0	3	13	8
Dermatology.....	0	1	0	0	0	1	5	8
Liver diseases.....	1	0	1	0	0	2	3	7
Chest inc. tuberculosis....	0	1	0	0	0	1	9	6
Gynaecology.....	0	0	0	0	0	0	8	5
Psychiatry.....	2	0	0	0	0	2	4	4
Oral surgery.....	0	0	0	0	0	0	2	2
Endocrinology inc thyroid..	2	0	0	0	0	2	4	1
Plastic surgery.....	0	1	0	0	0	1	1	1
Other investigations.....	1	0	0	0	2	3	52	46
T O T A L.....1989	184	94	125	28	5	436	621	516
	1988	283	134	164	26	14	621	
	1987	212	129	119	41	15	516	

4 OTHER HOSPITAL ACTIVITY

a) Deliveries and Births.

Details of the deliveries carried out in hospitals and maternity centres in 1989 are shown in Table 4.1. A total of 39.3 thousand deliveries took place in hospitals and maternity centres - a 6.5% increase over the 36.9 thousand of 1988. Of these deliveries, 89% were normal, 4.5% by Caesarean section and 2% by vacuum extraction.

A further 4.7 thousand deliveries (11%) were 'born before arrival (BBA)' at the institution. There was quite a marked variation in the rate of BBA's both between regions and between hospitals. By region, the rate varied from only 3% in Janubia to 14% in South Batinah and 15% in Sharqiya.

The outcome of the deliveries is shown in Table 4.1A. The total 44.1 thousand deliveries resulted in 44.4 thousand births of which 564 (1.3%) were stillbirths. There was limited variation in the rate across the hospitals and regions of the Sultanate, although the rate at the Nizwa hospital was 50% higher than the national average. Of the 43.9 thousand livebirths, 3.7 thousand (8.5%) were of low birth weight ("premature" in the table). The rate was highest at 13.5% in the Royal Hospital which has a higher proportion of high risk deliveries; there was only a limited variation across the remainder of the country.

LIVEBIRTHS BY PLACE OF DELIVERY — 1989

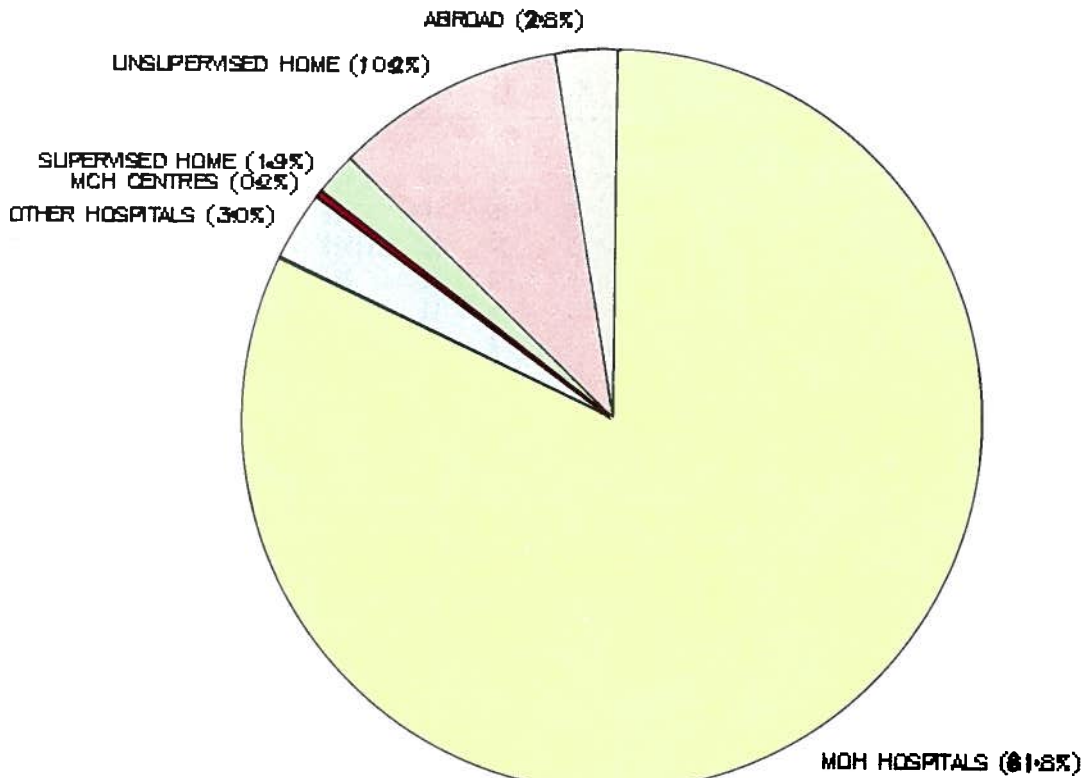


TABLE 4.1A NUMBER OF DELIVERIES - 1989

REGIONS HOSPITALS	D E L I V E R I E S					BORN BEFORE	GRAND TOTAL	RATE OF BBA's (per 100 delivs)	
	I N H E A L T H U N I T S								
	NORMAL	CAESARIAN	FORCEPS	VACUUM	OTHERS	TOTAL	ARRIVAL	TOTAL	
MUSCAT									
ROYAL.....	3,465	500	46	96	133	4,240	248	4,488	6%
KHOULA.....	4,542	351	15	81	270	5,259	414	5,673	7%
ASSAADA.....	553	1	6	22	12	594	55	649	8%
QURIYAT.....	510	0	2	9	13	534	308	842	37%
TOTAL:	9,070	852	69	208	428	10,627	1,025	11,652	9%
JANUBIA									
QABOOS.....	2,420	208	1	88	170	2,887	85	2,972	3%
TAWI ATTAIR.....	28	0	0	0	0	28	8	36	22%
RAKHYUT.....	5	0	0	0	0	5	1	6	17%
SUDH.....	37	0	0	0	0	37	2	39	5%
MADINAT AL-HAQ.....	43	0	0	0	0	43	4	47	9%
TOTAL:	2,533	208	1	88	170	3,000	100	3,100	3%
DHAKILYA									
SUMAIL.....	1,042	33	15	18	62	1,170	163	1,333	12%
NIZWA.....	1,273	135	5	37	282	1,732	39	1,771	2%
BAHLA.....	1,111	0	0	10	39	1,160	88	1,248	7%
HAIMA.....	33	2	0	4	1	40	13	53	25%
IZKI.....	655	0	0	0	0	655	101	756	13%
ADAM.....	309	0	2	3	4	318	31	349	9%
JABAL AKHDAR.....	39	0	0	0	3	42	4	46	9%
DUQUM.....	31	0	0	0	3	34	41	75	55%
TOTAL:	4,493	170	22	72	394	5,151	480	5,631	9%
SHARQIYA									
IBRA	1,011	50	0	23	24	1,108	167	1,275	13%
SUR.....	1,506	102	6	66	38	1,718	143	1,861	8%
B.B.BU ALI.....	982	37	9	29	25	1,082	135	1,217	11%
B.B.BU HASSAN.....	279	0	0	0	12	291	89	380	23%
SINAW	724	0	0	2	11	737	221	958	23%
MASIRAH.....	121	0	1	4	5	131	11	142	8%
WADI TAYEEN.....	220	0	0	0	2	222	99	321	31%
WADI BANI KHALID.....	99	0	0	0	4	103	44	147	30%
SAHAD AL-SHAAN.....	380	0	1	2	22	405	97	502	19%
BIDIYA.....	210	0	0	2	2	214	77	291	26%
TOTAL:	5,532	189	17	128	145	6,011	1,083	7,094	15%

HOSPITALS	REGIONS	D E L I V E R I E S					BORN		RATE OF BBA's (per 100 delivs)	
		I N H E A L T H U N I T S					BEFORE	GRAND		
		NORMAL	CAESARIAN	FORCEPS	VACUUM	OTHERS	TOTAL	ARRIVAL		TOTAL
NORTH BATINAH										
SOHAR.....		3,667	197	3	132	112	4,111	543	4,654	12%
SAHAM.....		2,894	0	0	0	51	2,945	475	3,420	14%
WADI SARAMI.....		35	0	0	0	3	38	7	45	16%
WADI HAWASNA.....		40	0	0	0	0	40	13	53	25%
HEEBI..(M).....		130	0	0	0	0	130	23	153	15%
TOTAL:		6,766	197	3	132	166	7,264	1,061	8,325	13%
SOUTH BATINAH										
RUSTAQ.....		2,948	68	2	76	57	3,151	452	3,603	13%
WADI BANI GHAFIR.....		235	0	0	0	0	235	81	316	26%
WADI MISTAL.....		39	0	0	0	0	39	11	50	22%
WADI HEMLI.....		132	0	0	0	5	137	39	176	22%
WADI BANI KHAROOS.....		78	0	0	0	1	79	13	92	14%
WADI SAHTAN (HC)..(*).....		52	0	0	0	4	56	4	60	7%
TOTAL:		3,484	68	2	76	67	3,697	600	4,297	14%
DHAHIRA										
TANAM.....		1,699	71	12	40	118	1,940	256	2,196	12%
BURAIMI.....		508	20	8	0	23	559	32	591	5%
YANKUL.....		477	0	0	9	0	486	97	583	17%
MAHDHA.....(M).....		0	0	0	0	0	0	0	0	0%
TOTAL:		2,684	91	20	49	141	2,985	385	3,370	11%
MUSANDAM										
BUKHA.....		64	0	0	0	4	68	2	70	3%
BAYA.....		198	7	0	17	2	224	5	229	2%
KHASAB.....		256	15	5	1	5	282	13	295	4%
MADHA.....(M).....		14	0	0	0	0	14	0	14	0%
TOTAL:		532	22	5	18	11	588	20	608	3%
NATIONAL TOTAL:.....		35,094	1,797	139	771	1,522	39,323	4,754	44,077	11%

(M) = Maternity Centre (HC) Health Centre
 (*) Operational since August 1989

TABLE 4.1B OUTCOME OF HOSPITAL DELIVERIES - 1989

REGIONS HOSPITALS	B I R T H S						
	L I V E B I R T H S				STILL BORN	GRAND TOTAL	SB's (per 100 births)
	NORMAL	PREMATURE	OTHERS	TOTAL	BORN	TOTAL	

MUSCAT							
ROYAL.....	3,832	603	31	4,466	74	4,540	1.6%
KHOULA.....	5,143	396	88	5,627	74	5,701	1.3%
ASSAADA.....	599	47	1	647	6	653	0.9%
QURIYAT.....	756	88	2	846	4	850	0.5%
TOTAL:	10,330	1,134	122	11,586	158	11,744	1.3%

JANUBIA							
QABOOS.....	2,782	143	28	2,953	49	3,002	1.6%
TAWI ATTAIR.....	36	0	0	36	0	36	0.0%
RAKHYUT.....	6	0	0	6	0	6	0.0%
SUDH.....	39	1	0	40	0	40	0.0%
MADINAT AL-HAQ.....	46	1	0	47	0	47	0.0%
TOTAL:	2,909	145	28	3,082	49	3,131	1.6%

DHAKILYA							
SUMAIL.....	1,188	137	6	1,331	13	1,344	1.0%
NIZWA.....	1,474	225	58	1,757	37	1,794	2.1%
BAHLA.....	1,102	131	15	1,248	5	1,253	0.4%
HAIMA.....	49	4	1	54	0	54	0.0%
IZKI.....	669	81	2	752	7	759	0.9%
ADAM.....	322	26	1	349	0	349	0.0%
JABAL AKHDAR.....	41	3	2	46	0	46	0.0%
DUQUM.....	69	5	1	75	0	75	0.0%
TOTAL:	4,914	612	86	5,612	62	5,674	1.1%

SHARQIYA							
IBRA.....	1,123	126	10	1,259	28	1,287	2.2%
SUR.....	1,722	132	2	1,856	25	1,881	1.3%
B.B.BU ALI.....	1,143	76	1	1,220	8	1,228	0.7%
B.B.BU HASSAN.....	348	22	6	376	5	381	1.3%
SINAW.....	863	87	2	952	12	964	1.2%
MASIRAH.....	133	9	1	143	0	143	0.0%
WADI TAYEEN.....	294	21	4	319	2	321	0.6%
WADI BANI KHALID.....	130	18	1	149	0	149	0.0%
SAMAD AL-SHAAN.....	465	36	2	503	3	506	0.6%
BIDIYA.....	271	19	0	290	2	292	0.7%
TOTAL:	6,492	546	29	7,067	85	7,152	1.2%

HOSPITALS	REGIONS	B I R T H S						SB's (per 100 births)
		L I V E B I R T H S				STILL	GRAND	
		NORMAL	PREMATURE	OTHERS	TOTAL	BORN	TOTAL	
NORTH BATINAH								
SOHAR.....		4,259	346	19	4,624	74	4,698	1.6%
SAHAM.....		3,214	194	6	3,414	26	3,440	0.8%
WADI SARAMI.....		38	6	0	44	2	46	4.3%
WADI HAWASNA.....		50	3	0	53	0	53	0.0%
HEEBI..(M).....		142	11	0	153	0	153	0.0%
TOTAL:		7,703	560	25	8,288	102	8,390	1.2%
SOUTH BATINAH								
RUSTAQ.....		3,256	310	17	3,583	47	3,630	1.3%
WADI BANI GHAFIR.....		277	34	2	313	5	318	1.6%
WADI MISTAL.....		38	7	0	45	3	48	6.3%
WADI HEMLI.....		158	15	1	174	4	178	2.2%
WADI BANI KHAROOS.....		87	5	0	92	0	92	0.0%
WADI SAHTAN (HC).(*).....		50	10	0	60	0	60	0.0%
TOTAL:		3,866	381	20	4,267	59	4,326	1.4%
DHAHIRA								
TANAM.....		1,941	224	22	2,187	36	2,223	1.6%
BURAIMI.....		536	51	1	588	7	595	1.2%
YANKUL.....		543	30	7	580	3	583	0.5%
MAHDHA.....(M).....		0	0	0	0	0	0	0.0%
TOTAL:		3,020	305	30	3,355	46	3,401	1.4%
MUSANDAM								
BUKHA.....		69	1	0	70	0	70	0.0%
BAYA.....		222	6	0	228	2	230	0.9%
KHASAB.....		262	34	3	299	1	300	0.3%
MADHA.....(M).....		15	0	0	15	0	15	0.0%
TOTAL:		568	41	3	612	3	615	0.5%
NATIONAL TOTAL:.....		39,802	3,724	343	43,869	564	44,433	1.3%

(M) = Maternity Centre

(*) Operational since August 1989

b) Other activities

Table 4.2 show the numbers of operations performed in hospitals and health centres in 1989 by type of operation. The total of 16.1 thousand major operations was 25% higher than the 12.9 thousand of 1988, which was itself 10% higher than the 11.7 thousand in 1987. The increases occurred in all specialities apart from neurosurgery which fell from 99 to nil. There were 70 thousand minor operations performed - a reduction of 4% from the 73.1 thousand minor operations in 1988 (itself 10% lower than the 81.5 thousand in 1987). This reduction in minor operations was mainly due to a reduction at the Khoula hospital from 9,400 in 1988 to only 3,800 in 1989.

Table 4.3 shows the amount of radiography performed in each hospital in 1989. A total of 357 thousand procedures took place - an 8% increase over the 330 thousand procedures of 1988, which was already an 11% increase over the 296 thousand of 1987. This increase occurred in all regions except for Dakhilya and Dhahirah. With numbers of patients only increasing by 1%, this also implies an increase in the number of tests per patient.

Table 4.4 shows the number of laboratory tests undertaken in 1989. The total 4.7 million was 34% higher than the 3.5 million of 1988, which was already 25% higher than the 2.8 million in 1987. An increase occurred in most regions, but was highest in Muscat and Janubia whose tests increased by 56% and 46% respectively. A comparison of the types of test done between 1988 and 1989 is not possible due to the change in the classification system introduced at the start of 1989.

The use of dental services continued to grow as shown in Table 4.5. 212 thousand treatments were carried out in 1989 - a 14% increase over the 186 thousand in 1988. The ratio of extractions : fillings remained at the 1988 level of 4.1 extractions : 1 filling. The worst regions are still Batinah (10 extractions: 1 filling) and Musandam (7 : 1), although both have improved since 1988. As in 1988, the Sinaw hospital performed over 3 thousand extractions but no fillings.

TABLE 4.2

OPERATIONS PERFORMED IN MINISTRY OF HEALTH HOSPITALS - 1989

HOSPITALS	REGIONS	T Y P E O F M A J O R O P E R A T I O N S										TOTAL MAJOR OPERA- TIONS	MINOR OPERA- TIONS	GRAND TOTAL
		Gastro- intestinal	Genito- urinary	Obs.& Gynaec.	Ophthal- mology	Ortho- paedics	Plastic Surgery	Neuro- Surgery	E N T	Dental	Misc.			
MUSCAT														
ROYAL.....		1506	969	1226	0	543	9		3		971	5227	399	5626
KHOULA.....		274	43	510	143	631	352	0	63	19	599	2640	3848	6488
AL-NAHDHA.....					1038						1013	2236	5220	7456
ASSAADA.....												0	190	190
QURIYAT.....												0	572	572
MUSCAT.....												0	5	5
TOTAL:		1780	1012	1736	1181	1174	367	0	1079	204	1570	10103	10234	20337
JANUBIA														
QABOOS.....		279	24	247	133	146	8		350	1	149	1337	3872	5209
TAWI ATTAIR.....												0	113	113
RAKHYUT.....												0	13	13
SUDH.....												0	157	157
MADINAT AL-HAQ.....												0	234	234
TOTAL:		279	24	247	133	146	8	0	350	1	149	1337	4389	5726
DHAKILYA														
SUMAIL.....		19	0	46	43	3	0				36	147	2374	2521
NIZWA.....		200	63	167	148	131	15		269		114	1107	8074	9181
BAHLA.....												0	1713	1713
HAIMA.....				3								3	183	186
IZKI.....												0	903	903
ADAM.....												0	485	485
JABAL AKHDAR.....											11	11	111	122
DUQUM.....											4	4	66	70
TOTAL:		219	63	216	191	134	15	0	269	0	165	1272	13909	15181

OPERATIONS PERFORMED IN MINISTRY OF HEALTH HOSPITALS - 1989

HOSPITALS	REGIONS	T Y P E O F M A J O R O P E R A T I O N S									TOTAL MAJOR OPERA- TIONS	MINOR OPERA- TIONS	GRAND TOTAL	
		Gastro- intestinal	Genito- urinary	Obs.& Gynaec.	Ophthal- mology	Ortho- paedics	Plastic Surgery	Neuro- Surgery	E N T	Dental				Misc.
SHARQIYA														
IBRA		42	7	50	85	10					85	279	3145	3424
SUR.....		153	45	133	164	7	2		117		44	665	3598	4263
B.B.BU ALI.....		54	5	39	11						1	110	852	962
B.B.BU HASSAN.....												0	363	363
SINAW												0	724	724
MASIRAH.....		2	4	0							1	7	359	366
WADI TAYEEN.....												0	296	296
WADI BANI KHALID.....												0	113	113
SAMAD AL-SHAAN.....												0	301	301
BIDIYA.....												0	176	176
TOTAL:		251	61	222	260	17	2	0	117	0	131	1061	9927	10988
BATINAH														
RUSTAQ.....		69	5	75	53	0	0		1		5	208	3077	3285
SOHAR.....		353	70	237	79	302	5		100		123	1269	4313	5582
SAHAM.....							0					0	763	763
WADI BANI GHAFFIR.....												0	139	139
WADI SARAMI.....												0	46	46
WADI MISTAL.....												0	4	4
WADI HAWASNA.....												0	62	62
WADI BANI KHAROOS.....												0	0	0
TOTAL:		422	75	312	132	302	5	0	101	0	128	1477	8404	9881

OPERATIONS PERFORMED IN MINISTRY OF HEALTH HOSPITALS - 1988

HOSPITALS	REGIONS	T Y P E O F M A J O R O P E R A T I O N S										TOTAL MAJOR OPERATIONS	MINOR OPERATIONS	GRAND TOTAL		
		Gastro-intestinal	Genito-urinary	Obs.& Gynaec.	Ophthal-mology	Ortho-paedics	Plastic Surgery	Neuro-Surgery	E N T	Dental	Misc.					
DHAHIRA																
TANAM.....		97	25	81	105	5	2		39	12	125	494	3484	3978		
BURAIMI.....		51	14	24	132						32	253	1306	1559		
YANKUL.....												0	390	390		
WADI JIZZI.....												0	16	16		
TOTAL:		148	39	105	237	8	2	0	39	12	157	747	5196	5943		
MUSANDAM																
BUKHA.....												0	88	88		
BAYA.....		7	1	12								21	736	757		
KHASAB.....		27	0	17	20		0		21			85	933	1018		
TOTAL:		34	1	29	20	0	0	0	21	0	1	106	1757	1863		
ALL HOSPITALS		3133	1275	2867	2154	1781	399	0	1976	217	2301	16103	53816	69919		
MINOR OPERATIONS CARRIED OUT IN HCs & MCs													16121	16121		
TOTAL MAJOR & MINOR OPERATIONS PERFORMED IN HOSPITALS, HCs & MCs												16103	69937	86040		

TABLE 4.3

RADIOGRAPHY PERFORMED IN MINISTRY OF HEALTH HOSPITALS - 1989

REGIONS	T Y P E O F X - R A Y S				TOTAL
	PLAIN	IVP	BARIUM- MEAL	OTHERS	
HOSPITALS					
MUSCAT					
ROYAL.....	49,128	1,213	838	9,260	60,439
KHOULA.....	67,265	242	266	463	68,236
AL-NAHDHA.....	17,567	100	529	1,067	19,263
AR-RAHMA.....	9,111	0	0	0	9,111
IBN-SINA.....	1,469	172	163	150	1,954
QURIYAT.....	3,238	0	0	0	3,238
MUSCAT.....	1,488	0	0	0	1,488
TOTAL:	149,266	1,727	1,796	10,940	163,729
JANUBIA					
QABOOS.....	40,991	235	829	231	42,286
TAWI ATTAIR.....	0	0	0	0	0
RAKHUT.....	0	0	0	0	0
SUDH.....	0	0	0	0	0
MADINAT AL-HAQ.....	0	0	0	0	0
TOTAL:	40,991	235	829	231	42,286
DHAKILYA					
SUMAIL.....	6,934	19	15	12	6,980
NIZWA.....	15,196	156	84	148	15,584
BAHLA.....	2,878	0	0	3,478	6,356
HAIMA.....	607	12	3	382	1,004
ADAM.....	1,441	47	0	61	1,549
TOTAL:	27,056	234	102	4,081	31,473
SHARQIYA					
IBRA	7,888	97	122	19	8,126
SUR.....	9,734	169	231	61	10,195
B.B.BU ALI.....	9,793	106	54	5	9,958
B.B.BU HASSAN.....	2,583	0	8	209	2,800
SINAW	927	430	200	1,963	3,520
MASIRAH.....	3,792	11	4	9	3,816
WADI TAYEEN.....	1,278	0	4	25	1,307
SAMAD AL-SHAAN.....	176	0	0	817	993
BIDIYA.....	2,012	0	0	0	2,012
TOTAL:	38,183	813	623	3,108	42,727

RADIOGRAPHY PERFORMED IN MINISTRY OF HEALTH HOSPITALS - 1989

HOSPITALS	REGIONS	T Y P E O F X - R A Y S				TOTAL
		PLAIN	IVP	BARIUM- MEAL	OTHERS	

BATINAH						
RUSTAQ.....		13,387	87	43	1,199	14,716
SOHAR.....		23,585	147	363	303	24,398
SAHAM.....		6,131	0	0	0	6,131
WADI HEMLI.....		211	20	24	12	267
WADI HAWSINA.....		33	10	11	18	72
WADI BANI GHAFIR.....		0	0	0	80	80
WADI BANI KHAROOS.....		335	0	0	51	386

TOTAL:		43,682	264	441	1,663	46,050

DHAHIRA						
TANAM.....		15,401	132	30	49	15,612
BURAIMI.....		7,190	26	57	42	7,315

TOTAL:		22,591	158	87	91	22,927

MUSANDAM						
BUKHA.....		386	0	0	0	386
DIBBA.....		518	0	15	606	1,139
KHASAB.....		6,233	66	98	38	6,435

TOTAL:		7,137	66	113	644	7,960

NATIONAL TOTAL:.....		328,906	3,497	3,991	20,758	357,152
=====						

TABLE 4.4

LABORATORY INVESTIGATIONS CARRIED OUT IN HEALTH INSTITUTIONS - 1989

TYPE & NUMBER OF LABORATORY TESTS DONE

REGIONS	HAEMATO- LOGY	BLOOD GROUPING	BIOCHEM- ISTRY	BACTERIOLOGY CULTURAL	OTHER	HISTOLOGY	CYTOLOGY	REFERRALS	SPECIMENS	T O T A L
HOSPITALS/HEALTH CENTRE										
MUSCAT										
ROYAL.....	183,779	85,086	1,160,797	285,826	47,727	45,700	19,737	4,281		1,832,933
KHOULA.....	83,453	56,530	79,203		38,188			30,677	30,163	318,214
AL-NAHDHA.....	63,574	151	22,949		22,364			12,102	38,574	159,714
AR-RAHMA.....	41,801	3,111	34,621		20,203			5,372	23,618	128,726
ASSAADA.....	9,292	2,168	368		11,502			478	9,356	33,164
IBN-SINA.....	10,277	776	2,764		4,053			2,060	4,030	23,960
QURIYAT.....	13,228	1,018	1,584		9,122			276	6,665	31,893
MUSCAT.....	6,077	87	1,236		4,067			271	4,020	15,758
TOTAL:	411,481	148,927	1,303,522	285,826	157,226	45,700	19,737	55,517	116,426	2,544,362
JANUBIA										
QABOOS.....	116,817	9,477	91,612	9,420	61,361	4,586	165	798	74,285	368,521
TAWI ATTAIR.....	1,274	240	53		1,070			3	974	3,614
RAKHYUT.....	1,197	87			601			7	916	2,808
SUDH.....	2,588	131	286		2,093				2,409	7,507
MADINAT AL-HAQ.....	3,764	355	44		3,373				2,256	9,792
DHALQUT H.C.....	1,336	97			992				1,581	4,006
TOTAL:	126,976	10,387	91,995	9,420	69,490	4,586	165	808	82,421	396,248

TYPE & NUMBER OF LABORATORY TESTS DONE

REGIONS	HAEMATO- LOGY	BLOOD GROUPING	BIOCHEM- ISTRY	BACTERIOLOGY CULTURAL	OTHER	HISTOLOGY	CYTOLOGY	REFERRALS	SPECIMENS	T O T A L
HOSPITALS/HEALTH CENTRE										
DAKHILYA										
SUMAIL.....	31,374	3,089	10,413	1,612	18,786			629	16,960	82,863
NIZWA.....	64,582	7,599	20,581	5,926	31,188			1,788	31,025	162,689
BAHLA.....	26,483	2,768	3,269		16,273			419	15,984	65,196
HAIMA.....	4,764	415	1,089		3,090			62	2,169	11,589
IZKI.....	12,028	801	879		11,221			143	8,387	33,459
ADAM.....	9,492	701	1,181	201	8,142			261	6,325	26,303
JABAL AKHDAR.....	142	152			1,091				181	1,566
DUQUM.....	1,732	142	158		1,285				1,134	4,451
TOTAL:	150,597	15,667	37,570	7,739	91,076	0	0	3,302	82,165	388,116
SHARQIYA										
IBRA	30,510	4,729	5,636		20,690			476	17,052	79,093
SUR.....	32,107	4,800	10,176	2,354	23,210			1,070	19,599	93,316
B.B.BU ALI.....	27,685	4,198	2,304		31,757			140	7,780	73,864
B.B.BU HASSAN.....	13,466	1,354	2,095		20,573			26	9,290	46,804
SINAW	25,550	1,785	3,663		17,168			108	15,228	63,502
MASIRAH.....	14,243	293	781		5,678			32	5,418	26,445
WADI TAYEEN.....	13,076	441	684		6,408				5,937	26,546
WADI BANI KHALID.....	3,724	192	141		2,786				2,516	9,359
SAMAD AL-SHAAN.....	10,222	898	72	8	7,391				5,276	23,867
BIDIYA.....	10,180	1,036	1,222		7,491				4,836	24,765
TOTAL:	180,763	19,726	26,774	2,362	143,152	0	0	1,852	92,932	467,561

TYPE & NUMBER OF LABORATORY TESTS DONE

HOSPITALS/HEALTH CENTRE	REGIONS	HAEMATO- LOGY	BLOOD GROUPING	BIOCHEM- ISTRY	BACTERIOLOGY CULTURAL	OTHER	HISTOLOGY	CYTOLOGY	REFERRALS	SPECIMENS	T O T A L

BATINAH NORTH											
SOHAR.....		76,310	13,641	16,051	3,760	43,915	209		2,147	61,375	217,408
SAHAM.....		38,272	5,280	1,707	423	26,573			6	28,274	100,535
WADI SARAMI.....		2,939	82	233		643			1	941	4,839
WADI HAWASNA.....		883	79	90		404				544	2,000
TOTAL:		118,404	19,082	18,081	4,183	71,535	209	0	2,154	91,134	324,782

BATINAH SOUTH											
RUSTAQ.....		50,223	10,230	15,846		32,036			1,607	38,629	148,571
WADI MISTAL.....		1,805	93	144		439				898	3,379
WADI HEMLI.....		4,520	233	304		2,376				2,257	9,690
WADI BANI GHAFFIR.....		6,111	272	127		3,189				4,163	13,862
WADI BANI KHAROOS.....		3,799	127	707		1,999				1,404	8,036
TOTAL:		66,458	10,955	17,128	0	40,039	0	0	1,607	47,351	183,538

DHAHIRA											
TANAM.....		73,654	10,376	19,421	6,664	39,462	13		2,120	49,834	201,544
BURAIMI.....		28,917	3,816	6,989		25,481			367	10,144	75,714
YANKUL.....		10,920	841	226		4,180			339	4,803	21,309
WADI JIZZI.....		2,925	133	80		863			1	1,017	5,019
TOTAL:		116,416	15,166	26,716	6,664	69,986	13	0	2,827	65,798	303,586

MUSANDAM											
BUKHA.....		3,820	180	839		3,568			9	1,971	10,387
DIBBA.....		5,133	567	1,119	19	4,125			3	4,184	15,150
KHASAB.....		18,698	1,653	3,920	2,168	18,783			166	20,110	65,498
TOTAL:		27,651	2,400	5,878	2,187	26,476	0	0	178	26,265	91,035

NATIONAL TOTAL:		1,198,746	242,310	1,527,664	318,381	668,980	50,508	19,902	68,245	604,492	4,699,228
=====											

TABLE 4.5

DENTAL & OTHER ACTIVITIES IN MINISTRY OF HEALTH HOSPITALS - 1989

HOSPITALS	REGIONS	TYPE OF DENTAL TREATMENTS			OTHER ACTIVITIES		
		DENTAL EXTRAC- TIONS	DENTAL FILLINGS	OTHER DENTAL TREAT- MENTS	TOTAL DENTAL TREAT- MENTS	MEDICAL CHECKUPS	EYE TESTINGS
MUSCAT							
ROYAL.....		552	1,138	1,941	3,631	0	0
AL-NAHDHA.....		15,223	4,661	23,831	43,715	3,074	28,125
AR-RAHMA.....		0	0	0	0	3,068	0
QURIYAT.....		1,549	199	1,559	3,307	358	195
MUSCAT.....		1,690	450	2,428	4,568	0	0
TOTAL:		19,014	6,448	29,759	55,221	6,500	28,320
JANUBIA							
QABOOS.....		9,388	3,944	8,082	21,414	871	10,140
SUDH.....		0	0	361	361	11	0
TOTAL:		9,388	3,944	8,443	21,775	882	10,140
DHAKILYA							
SUMAIL.....		4,139	818	4,441	9,398	1,362	2,278
NIZWA.....		8,504	1,489	3,543	13,536	724	5,627
BAHLA.....		0	0	0	0	1,118	1
HAIMA.....		399	199	528	1,126	24	0
DOQUM.....		0	0	0	0	15	4
IZKI.....		0	0	0	0	0	0
ADAM.....		1,651	515	894	3,060	592	15
TOTAL:		14,693	3,021	9,406	27,120	3,835	7,925
SHARQIYA							
IBRA		4,669	2,242	3,440	10,351	1,671	2,152
SUR.....		2,037	449	6,923	9,409	3,597	5,379
B.B.BU ALI.....		2,445	461	2,267	5,173	932	1,301
B.B.BU HASSAN.....		0	0	1,500	1,500	750	716
SINAW		3,757	0	3,275	7,032	1,205	1,205
MASIRAH.....		0	0	0	0	45	90
WADI TAYEEN.....		186	0	3,247	3,433	294	418
WADI BANI KHALID.....		0	0	0	0	241	0
BIDIA.....		0	0	0	0	392	319
SAMAD AL-SHAAN.....		0	0	0	0	638	0
TOTAL:		13,094	3,152	20,652	36,898	9,765	11,580

DENTAL & OTHER ACTIVITIES IN MINISTRY OF HEALTH HOSPITALS - 1989

REGIONS	TYPE OF DENTAL TREATMENTS				OTHER ACTIVITIES	
	DENTAL EXTRAC- TIONS	DENTAL FILLINGS	OTHER DENTAL TREAT- MENTS	TOTAL DENTAL TREAT- MENTS	MEDICAL CHECKUPS	EYE TESTINGS
HOSPITALS						
BATINAH						
RUSTAQ.....	5,494	1,049	3,578	10,121	495	2,101
SOHAR.....	9,129	631	13,171	22,931	4,153	14,845
SAHAM.....	5,943	466	4,904	11,313	1,962	1,866
WADI BANI GHAFIR.....	0	0	980	980	0	0
WADI SARAMI.....	0	0	389	389	19	0
WADI MISTAL.....	0	0	0	0	0	0
WADI HAWASNA.....	1	0	300	301	55	0
WADI HEMLI.....	0	0	374	374	91	0
WADI BANI KHAROOS.....	0	0	444	444	0	0
TOTAL:	20,567	2,146	24,140	46,853	6,775	18,812
DHAHIRA						
TANAM.....	4,475	534	4,749	9,758	5,700	2,035
BURAIMI.....	5,836	1,792	3,713	11,341	1,953	227
TOTAL:	10,311	2,326	8,462	21,099	7,653	2,262
MUSANDAM						
BUKHA.....	19	0	33	52	287	0
DIBBA.....	166	0	141	307	91	127
KHASAB.....	1,117	181	1,762	3,060	631	350
TOTAL:	1,302	181	1,936	3,419	1,009	477
NATIONAL TOTAL:.....	88,369	21,218	102,798	212,385	36,419	79,516

5. PREVENTIVE SERVICES

During 1989, the administration & delivery of preventive and promotive health services was the responsibility of the Directorate of Preventive Medicine. This included Maternal & Child Health Services, Environmental Health, Quarantine measures, Vector control, and Health Education. The National Health Programme - a part of the Directorate of Preventive Medicine - managed several of the disease prevention programmes including the Expanded Programme of Immunization, the Tuberculosis Control Programme, the Prevention of Blindness Programme, the Diarrhoeal Diseases Control Programme and the Acute Respiratory Infections Control Programme.

At the end of 1989 (1988), there were 6 (6) Public Health Compounds, 60 (58) Public Health Units, 4 (4) MCH centres and 9 (9) Malaria Control Centres operating throughout the country. Their distribution is shown in Table 5.1.

TABLE 5.1

REGIONAL DISTRIBUTION OF PREVENTIVE MEDICINE FACILITIES -
AS OF 31.12.1989

REGIONS	PUBLIC HEALTH COMPOUNDS	PUBLIC HEALTH UNITS	QUARANTINE UNITS			MCH CENTRES	MALARIA CONTROL CENTRES
			AIRPORTS	PORTS	BORDERS		
MUSCAT.....	-	3	1	2	-	2	-
JANUBIA.....	1	9	1	1	-	-	-
DHAKILIYA....	2	9	-	-	-	-	2
SHARQIYA....	1	17	-	-	-	1	2
N. BATINAH...	1	5	-	-	1	-	1
S. BATINAH...	-	7	-	-	-	-	2
DHAHIRA.....	1	6	-	-	1	-	1
MUSANDAM.....	-	4	-	-	-	1	1
TOTAL:	6	60	2	3	2	4	9
(1988)	6	58	2	3	2	4	9

The various components of preventive medicine are as follows.

TABLE 5.2

**ANTE-NATAL SERVICES IN HOSPITALS,
MATERNITY CENTRES & HEALTH CENTRES - 1989**

REGION	ANTE-NATAL VISITS			MEAN NO. OF VISITS PER PREGNANCY
	N E W	RE-VISITS	TOTAL	
MUSCAT.....	12,904	71,069	83,973	6.5
JANUBIA.....	4,054	22,792	26,846	6.6
DAKHILYA.....	7,356	32,616	39,972	5.4
SHARQIYA.....	7,808	36,651	44,459	5.7
BATINAH.....	16,147	60,353	76,500	4.7
DHAHIRA.....	3,775	19,205	22,980	6.1
MUSANDAM.....	690	3,051	3,741	5.4
NATIONAL TOTAL	52,734	245,737	298,471	5.7

EXPANDED PROGRAMME OF IMMUNIZATION (EPI)

The objective of the EPI is to fully immunize all children against the diseases of tuberculosis (BCG), diphtheria, pertussis, tetanus and poliomyelitis (DPTP), and measles by their first birthday.

This was carried out under the management of the National Health Programme of the Directorate of Preventive Medicine. Its main features are:-

- (a) To offer an immunization service in all the Ministry's hospitals and health centres.
- (b) To monitor the incidence of the six diseases in children and to instigate control measures when an outbreak occurs.
- (c) To improve coverage by defaulter retrieval and visiting distant/ inaccessible communities. This is carried out by outreach teams based at public health units.

The number of immunization doses given in 1989 to children and females of child-bearing ages are shown in Table 5.3. A comparison over the last 8 years for the number of doses given to under 1 year children is shown in Table 5.4 and Figure 6.

As shown by the tables and figure, the coverage rate for all diseases increased significantly from 1981 to 1986. In 1985 the BCG and DPTP-1 reached over 90% coverage by age 1 year, and has remained there since. Both the DPTP-3 and the measles (both given towards the end of the child's first year) have understandably taken longer to increase their coverage, as they both began from much lower initial levels in 1981, and require visits towards the end of the child's first year of life. They both passed the critical 80% mark in 1987 and have further improved to 98% and 96% respectively in 1989.

Immunizations given in the age range 1-5 years further augment the 1-year old coverage, and, since 1985 have provided between 95% and 99% coverage for all the EPI diseases by the school entry age of 6 years.

TABLE 5.3

IMMUNIZATIONS GIVEN IN 1989

A) PRE-SCHOOL CHILDREN

Immunization	Total	Under 1	AGE (years)	
			1 - <2	2 - <6
B C G.....	49,841	49,292	169	380
<u>DPT & OPV (DPTP)</u>				
Dose-1.....	52,789	51,771	624	394
Dose-2.....	53,127	51,402	1,230	495
Dose-3.....	53,549	49,729	2,871	949
Booster....	43,758	37,240	6,518
Measles.....	53,472	48,874	3,648	950

B) Females of child-bearing ages

Tetanus	Total	Pregnant	Other
Dose-1.....	24,745	20,869	3,876
Dose-2.....	19,890	18,210	1,680
Booster....	4,487	4,167	320

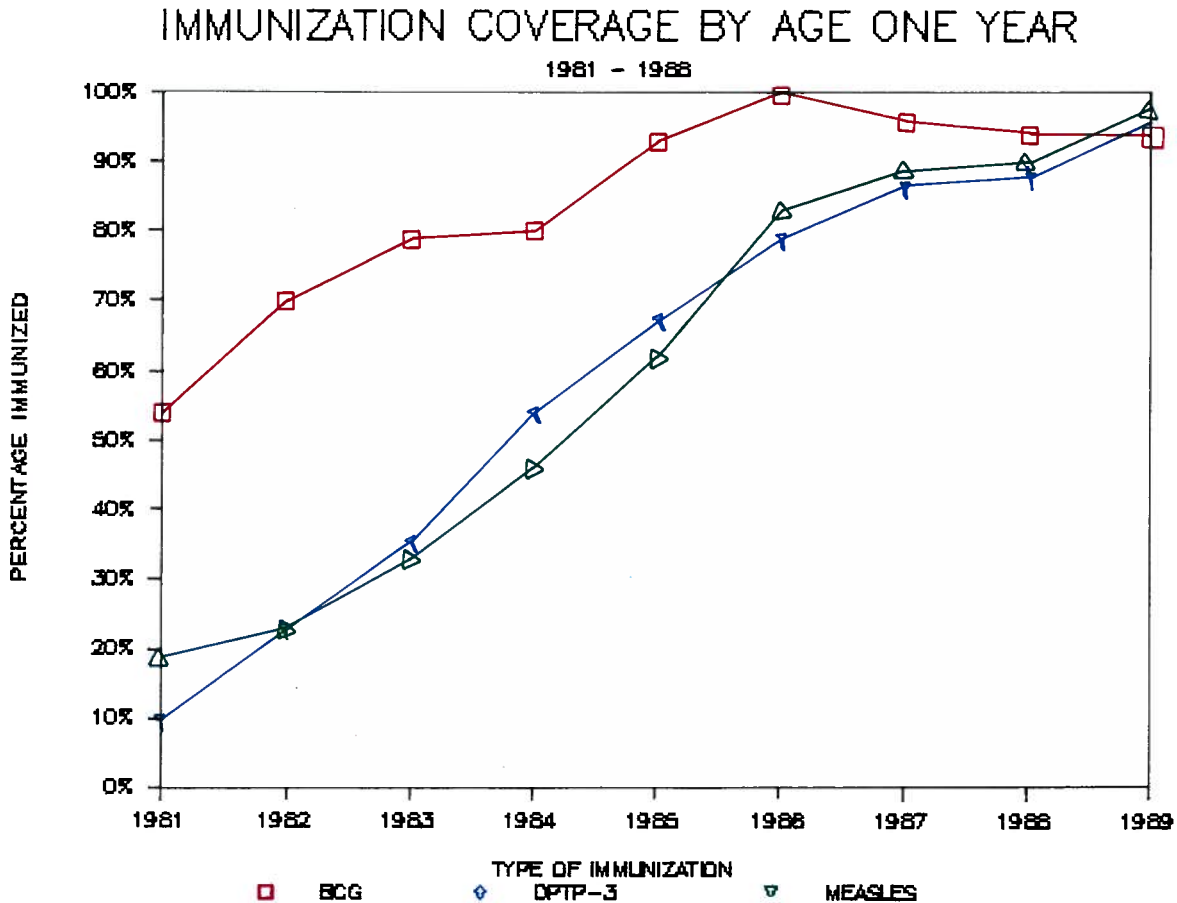


TABLE 5.4 IMMUNIZATION COVERAGE BY AGE 1 YEAR - 1981-1989

Year	Estimated Live-births ('000s)	BCG		DPTP-1		DPTP-3		MEASLES	
		No. ('000s)	% *	No. ('000s)	% *	No. ('000s)	% *	No. ('000s)	% *
1981	43.3	24.3	56%	10.5	42%	8.0	19%	4.0	10%
1982	45.6	35.7	78%	23.1	52%	10.8	23%	10.6	23%
1983	48.0	37.3	78%	29.0	62%	14.5	32%	15.8	35%
1984	49.5	39.0	79%	38.7	80%	21.4	45%	25.1	54%
1985	50.0	46.4	93%	45.3	93%	28.8	60%	31.3	66%
1986	50.6	50.7	100%	50.4	102%	40.4	83%	38.6	79%
1987	51.3	49.2	96%	50.1	99%	44.2	89%	43.0	87%
1988	52.0	49.0	94%	49.2	96%	45.4	90%	44.1	88%
1989	52.6	49.3	94%	51.8	100%	51.0	98%	48.9	96%

DPTP-1 is the first dose of the DPT and OPV immunizations

DPTP-3 is the third (final) dose of the DPT and OPV immunizations

* % Coverage of the target populations, which are:-

BCG - (All livebirths)

DPTP-1 - (Livebirths) minus (Half of the Infant deaths)
(as these will have died before the DPT-1 is given)

DPTP-3 - (Livebirths) minus (All Infant deaths)

Measles - (Livebirths) minus (All Infant deaths)

Note - It is estimated that between 1,000 and 1,500 babies are delivered in nearby countries and receive their BCG there. These are not included in this table, and would increase the BCG coverage by about 2%.

PREVENTION OF BLINDNESS PROGRAMME (PBP)

Trachoma - the blinding eye disease - is still a major public health problem in Oman. Trachoma is endemic amongst the rural populations of the northern regions of Oman, where it is estimated that 3% - 4% of the population suffer from moderate to severe trachoma and 18% - 20% form mild trachoma; 3% are one eye blind and another 3% both eyes blind. Muscat and the Janubia Region, however are very little affected by the disease.

Since the victims of the disease seldom seek treatment of their own accord, the PBP is an outreach programme into schools and communities to find and treat them. PBP has, therefore, two approaches - a School Screening Programme and a Community Screening Programme. Under both programmes, cases detected are treated with appropriate drugs and serious cases referred to a local ophthalmologist.

(i) School Screening Programme

In the school year 1988-9, school health visitors carried out this programme. Their activity levels and findings compared with those of the previous years are shown in Table 5.5.

(ii) Community Screening Programme

The Community Screening Programme was carried out by 7 PBP teams based in Nizwa, Sumail, Al-Hamra, Rustaq, Sur, Masnah & Sohar, covering 7 - 10 % of the target population in northern Oman. Their activity levels and findings for 1989 and two previous years are also shown in Table 5.5.

As shown in the table, the results of 1989 are similar to those of 1988 and 1987 for the Community Screening. However for the School Screening Programme, there appears to be an improvement in the status of the children's eye health in 1989 compared with both 1988 and 1987.

TABLE 5.5 PREVENTION OF BLINDNESS PROGRAMME

<u>Community Screening</u>			
<u>TRACHOMA SCREENING</u>	<u>1989</u>	<u>1988</u>	<u>1987</u>
Places visited.....	109	122	123
Persons examined.....	27,000	35,000	33,000
Prevalence discovered			
Normal.....	62%	56%	59%
Mild trachoma.....	13%	19%	18%
Moderate/severe trachoma.....	3%	4%	3%
Thick lid trachoma.....	16%	15%	15%
Blind (one or both eyes).....	6%	6%	5%
<u>School Screening</u>			
<u>1986-7</u>	<u>1988-89</u>	<u>1987-8</u>	
<u>TRACHOMA SCREENING</u>			
Schools screened.....	264	553	431
Students examined.....	27,000	107,000	55,000
Prevalence discovered			
Normal.....	78%	72%	64%
Mild trachoma.....	17%	20%	27%
Moderate/severe trachoma.....	3%	4%	5%
Thick lid trachoma.....	1%	3%	3%
Blind (one or both eyes).....	0.5%	0.6%	0.7%
<u>REFRACTION TESTING</u>			
Schools visited.....	94	154	153
Students tested	51,000	60,500	58,600
Refraction tests.....	3,168	4,808	5,154
Defective vision detected.....No.	1,701	2,609	2,251
%	3.3 %	4.3%	3.8%

TUBERCULOSIS CONTROL PROGRAMME

The goal of the Tuberculosis Control Programme is to detect and treat all new cases of tuberculosis in the Ministry of Health's institutions. It consists of three components :-

- 1 Diagnosis and treatment of cases, which is carried out by the Ministry's curative units (mainly hospitals).
- 2 Contact tracing and defaulter retrieval, which is implemented by preventive units.
- 3 Staff training, monitoring and supervision of the Control Programme, which is the responsibility of the National Health Programme Office.

A statistical summary for the year 1989 and its comparison with previous years is shown in Table 5.6.

The number of new cases has constantly declined from 861 in 1985 to 478 in 1989. From 1984 to 1987, however, the number of extra-pulmonary cases constantly increased, but showed a slight reduction in 1988. Part of the increasing number of extra-pulmonary cases is due to the improvement of diagnosis and reporting. The lack of the continued decline in the numbers of new cases in 1989 is due to the reporting of 38 new cases from the Armed Forces Hospital in Al Khod for the first time.

The number of defaulters dropped significantly between 1986 and 1987 from 424 to 275, and fell further to 170 in 1988; this decreased further to only 108 in 1989. The current rate of 18% is now significantly less than the 50% achieved in similar countries of both the region and the world.

TABLE 5.6 TUBERCULOSIS RELATED STATISTICS - 1985-1989

	1989	1988	1987	1986	1985
New pulmonary cases detected	370	379	502	669	778
Sputum positive.....	147	177	153	222	258
Sputum negative.....	223	202	349	387	520
Extra pulmonary cases.....	108	98	114	91	83
<u>Total New Cases.....</u>	<u>478</u>	<u>477</u>	<u>616</u>	<u>700</u>	<u>861</u>
Old cases restarting treatment.	60	79	108	171	190
Cured cases reinfected....	31	35	na	na	na
Lost cases resuming trt...	29	44	na	na	na
Cases cured.....	373	469	447	446	483
Cases died.....	42	34	44	46	41
Cases lost(defaulters).....	108	170	275	424	444
Cases left country.....	31	39	35	43	40
Cases on treatment on 31st December.....	437	463	619	696	784
<u>Diagnostic tests</u>			(thousands)		
	1989	1988	1987	1986	1985
Sputum examinations.....	15.1	15.4	13.7	13.8	13.3
Mantoux tests.....	n.k.	5.8	5.4	4.3	4.0

MALARIA CONTROL PROGRAMME

During 1989 and 1988, 9 Malaria Control Units were operational. In addition to these, there were 54 (52) malaria control teams attached to Public Health Compounds and Public Health Units.

In 1989 the geographical reconnaissance was started and/or updated in 265 villages. This is about half of the 506 visited in 1987 and about two thirds of the 374 visited in 1988. The breeding places and spraying operations are shown in Table 5.7. House numbering and a household census were carried out in 48 (129) villages.

Table 5.7 shows the summary of the house spraying operations.

Larviciding operations continued to constitute the main vector control measure in the majority of the protected areas. In 1989 (1988) this activity covered 1.50 (1.45) million square meters of water surfaces weekly.

Smear activity levels for 1989 and 1988 are as shown in Table 5.7.

The malaria incidence, as measured by passive case detection, is shown in Table 5.8. Although this had been progressively declining during the years 1981-1986, the total positive cases detected in 1989 were 13.6 thousand (a fall from the 19.8 thousand of 1988 but still higher than the 11.4 thousand in 1987 and 11.1 thousand in 1986). Of the 1989 cases, 11.9 thousand were *P. falciparum*, lower than the 18.1 thousand of 1988, but higher than the 9.7 thousand in 1987. These figures suggest a leveling off but not yet a decrease in the overall incidence of the disease.

Table 5.8 also shows the regional distribution of the cases detected in 1989. Both the number of cases and the slide positivity rate were by far the highest in Dhahirah, followed by Sharqiya, Batinah and Dakhilya. Just over one thousand cases were found in the Muscat region, although the slide positivity rate was lower - 3.3%.

Table 5.9 shows the prevalence in the general population, taken from a sample of normal households. This shows a national slide positivity rate of 1.5% almost 50% lower than the 2.2% rate of 1988. There are, however, considerable variations from one region to another, ranging from a 3.7% rate in the Dhahirah region to zero in the Janubia region.

TABLE 5.7 MALARIA CONTROL

A) HOUSE SPRAYING OPERATIONS			
	<u>1989</u>	<u>1988</u>	<u>1987</u>
Villages covered.....	152	104	66
Total population	49,500	34,100	34,500
- Population protected	45,500	29,900	25,700
- % of Population protected.....	92%	88%	74%
Total houses.....	12,371	8,788	8,043
- Houses totally covered.....	7,490	5,061	4,022
- Houses partially covered.....	3,935	2,617	1,946
- % of coverage.....	92%	87%	74%
Total number of rooms in houses.....	73,800	47,400	48,100
- Number of rooms sprayed.....	63,600	41,200	35,700
- % of coverage.....	86%	87%	74%
- Surface area covered (million m2)....	2.86	1.98	1.71
DDT 75% WDP consumption (kgs).....	7,093	5,238	4,725
B) SMEAR ACTIVITY			
	<u>1989</u>	<u>1988</u>	<u>1987</u>
	(thousands)		
Total Smears done	268	270	240
Passive case detection			
Malaria Units/Laboratory....	8.1	9.7	11.7
Other health units.....	155.1	170.5	140.1
Surveys.....	99.3	81.8	87.4
Case contacts & follow-ups.....	5.2	8.2	1.2
Positive smears			
Number.....	17.9	24.8	15.4
Smear Positivity Rate.....	6.7%	9.2%	6.4%

TABLE 5.8 Passive Case Detection Carried out by the General Health Facilities with Laboratories during 1989

REGION	Blood Smears Taken	Positive Cases	Rate (%) (SPR)	Type of Malaria				% Rate of P. Falciparum
				Falciparum	Vivax	Malariae	Mixed Infection	
MUSCAT	32,769	1,084	3.3%	897	176	1	10	83%
JANUBIA	1,260	9	0.7%	1	8	0	0	11%
DAKHILYA	23,402	1,804	7.7%	1,477	321	0	6	82%
SHARQIYA	37,933	3,462	9.1%	2,770	692	0	0	80%
BATINAH	32,077	2,699	8.4%	2,598	101	0	0	96%
DHAHIRA	24,700	4,415	17.9%	4,102	313	0	0	93%
MUSANDAM	2,968	79	2.7%	30	49	0	0	38%
TOTAL	155,109	13,552	8.7%	11,875	1,660	1	16	88%

TABLE 5.9 Household Surveys Carried Out by the Malaria Control Section During 1989

REGION	Blood Smears Taken	Positive Cases	Rate (%) (SPR)	Type of Malaria			Mixed Infection	% Rate of P. Falciparum
				Falciparum	Vivax	Malariae		
MUSCAT	12,883	33	0.3%	33	-	-	-	100%
JANUBIA	9,684	0	0.0%	-	-	-	-	-
DAKHILYA	15,913	109	0.7%	107	1	-	1	98%
SHARQIYA	26,111	527	2.0%	519	8	-	-	98%
BATINAH	22,355	443	2.0%	437	6	-	-	99%
DHAHIRA	10,050	376	3.7%	369	7	-	-	98%
MUSANDAM	2,273	5	0.2%	5	-	-	-	100%
TOTAL	99,269	1,493	1.5%	1,470	22	0	1	98%

OTHER PUBLIC HEALTH ACTIVITIES

(i) School Health Services

These services which include medical check ups of the students, treatment of common diseases & vaccination against communicable diseases are being carried out by public health compounds & public health units in addition to the School Health Section. During 1989 (1988), the School Health Section visited a total of 995 (1,030) schools, treating 53 thousand (55 thousand) students for various ailments and giving basic medical examinations to 4,727 (6,526) students.

(ii) Environmental Health Services

The Environmental Health Section provides those services in Muscat which public health compounds/units provide in other regions. Such activities include inspection of markets, slaughter houses, water reservoirs etc. During 1989, 12,968 places were inspected.

(iii) Bacteriological & Chemical Laboratories

Analyses of food & water samples is the main function of these laboratories. During 1989 (1988), 1,306 (1,181) food and 5,575 (6,673) water samples were analyzed by the laboratories; also, 499 (190) water tanks were inspected & disinfected. 85 thousand (87 thousand) samples of urine, stool, and blood taken from food-handlers were also analyzed.

(iv) Quarantine Activities

There are 7 Health Checkposts at points of entry to Sultanate, which include 3 ports, 2 airports & 2 border checkposts. During 1989 (1988), the port health units inspected 1,582 (1,498) vessels with 34 thousand (35 thousand) crew members. Airport health units checked 7,547 (7,306) planes with 84 thousand (85 thousand) crew members and 509 thousand (484 thousand) passengers. 1,331 (4,674) persons were vaccinated against cholera or yellow fever. At points of entry into the Sultanate, 13,133 (11,615) food clearance certificates were issued.

6. EDUCATION & TRAINING

Medical education and training, both locally and abroad, is the responsibility of the Directorate of Education & Training. This includes:-

- (a) Local education & training of nurses & other para-medical staff at the Institute of Health Sciences.
- (b) Post-graduate training of doctors & nurses abroad.
- (c) Training of para-medical and other staff abroad.

1989 saw a significant reduction in the numbers of local students qualifying from the Institute of Health Sciences as shown in Table 6.1. The main fall occurred in the numbers of Assistant Nurses, which fell from 39 in 1988 to only 12 in 1989.

The total enrollment at the Institute of Health Sciences during 1989 stood at 272 for the following courses:-

	1989	1988	1987
(a) General nursing.....	154	104	73
(b) Assistant nursing.....	18	33	48
(c) Medical laboratory technicians	46	45	43
(d) Physiotherapy.....	24	13	6
(e) Radiography.....	30	23	9

Further details by course and stage are shown in Table 6.1.

In 1989 (1988) the Institute of Health Sciences trained 33 (47) medical & para-medical and arranged training course for 179 (139) administrators & other staff locally. Also during 1989 (1988), 34 (44) medical & para-medical and 12 (5) other staff members were sent abroad for further training.

The achievements of the Institute over the past 5 years are shown in Table 6.2. The numbers of graduates of the general nursing course has been somewhat erratic over this period ranging from 24 and 27 in 1984 and 1985 to between 10 and 20 since 1987. The number of Assistant Nurses had been more consistent with an average of 26 per year from 1984 to 1987; 1988 saw 39 graduates followed by only 12 in 1989 - the lowest number since the course began. The number of medical laboratory technicians has remained between 8 and 12 since the first graduations in 1986.

TABLE 6.1

ENROLMENT AT INSTITUTE OF HEALTH SCIENCES -1989, 1988 & 1987

C O U R S E S	ACADEMIC YEAR 1989			T O T A L	
	MALE	FEMALE	TOTAL	1988	1987
GENERAL NURSING =====					
1st Year	22	49	71	49	40
2nd Year	13	33	46	33	7
3rd Year	16	13	29	7	15
Final Term	6	2	8	15	11
ASSISTANT NURSING =====					
1st Year	0	0	0	21	23
Final Year	12	6	18	12	25
MEDICAL LAB TECHNICIAN =====					
1st Year	2	14	16	14	13
2nd Year	7	3	10	13	7
3rd Year	7	6	13	7	11
Final Term	2	5	7	11	12
PHYSIOTHERAPY =====					
1st Year	6	5	11	8	0
2nd Year	8	0	8	0	6
3rd Year	0	0	0	5	0
Final Term	3	2	5	0	0
RADIOGRAPHY =====					
1st Year	7	5	12	12	0
2nd Year	5	2	7	0	9
3rd Year	0	0	0	11	0
Final Term	8	3	11	0	0

T O T A L :	124	148	272	218	179
=====					

TABLE 6.2 GRADUATES FROM THE INSTITUTE OF HEALTH SCIENCES 1984 - 1989

NUMBER OF STUDENTS QUALIFIED									
YEARS	GENERAL NURSING			ASSISTANT NURSING			MEDICAL LABORATORY TECHNICIANS		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
1984	6	18	24	7	21	28	-	-	-
1985	9	18	27	10	17	27	-	-	-
1986	3	6	9	6	22	28	3	5	8
1987	9	10	19	3	15	18	2	6	8
1988	5	6	11	11	28	39	6	6	12
1989	13	2	15	5	7	12	5	6	11

7. MEDICAL & HEALTH PERSONNEL

The total staff employed under the Ministry of Health at the end of 1989 is shown in Table 7.1. At that time, the Ministry employed 11,525 staff. This was only 1% more than the 11,448 at the end of 1988, as compared with an increase of 6% during the previous year. Of the total staff, 7,551 (66%) were medical/para-medical staff. Omanis constituted 52% of the total staff - the same as at the end of both 1988 and 1987. For medical & para-medical staff Omanis constituted 36%.

Details of all Ministry of Health medical and paramedical staff by sex and nationality are shown in Table 7.2. At the end of 1989, Omanis constituted 9% of physicians, 24% of dentists, 15% of pharmacists, 12% of nursing staff and 69% of other paramedical staff. There was little change in these percentages from 1987 to 1989.

The numbers of medical personnel employed by the Ministry over the last five years is shown in Table 7.3. There has been a continuous increase in all categories, with the greatest increase occurring from 1986 to 1987 with the staffing of the new Royal hospital in Muscat.

The total numbers of medical and paramedical staff working in the Sultanate are shown in Table 7.4. About two thirds of all doctors are employed by the Ministry of Health, although 314 (22%) work in private clinics. Only 39% of dentists are Ministry of Health, with the highest proportion (43%) being in private practice. Pharmacists are primarily distributed in the private sector (77%), while the vast majority of nurses (85%) are employed by the Ministry of Health.

TABLE 7.1

MEDICAL/PARA-MEDICAL AND OTHER STAFF EMPLOYED UNDER MINISTRY OF HEALTH 31.12.1989

C A T E G O R I E S	O M A N I S			N O N - O M A N I S			T O T A L			P E R C E N T A G E O F O M A N I S	
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	1989	1988
Medical & Para-medical.....	1,666	1,078	2,744	1,483	3,324	4,807	3,149	4,402	7,551	36%	36%
Administrative.....	746	169	915	206	63	269	952	232	1,184	77%	75%
Professional/Technical..... (Other than medical/para-medical)	202	2	204	281	0	281	483	2	485	42%	41%
Farrashes & Others.....	1,886	276	2,162	138	5	143	2,024	281	2,305	94%	94%
GRAND TOTAL :.....	4,500	1,525	6,025	2,108	3,392	5,500	6,608	4,917	11,525	52%	52%
PERCENTAGE OF TOTAL STAFF :											
1989	39%	13%	52%	18%	30%	48%	57%	43%	100%		
1988	39%	13%	52%	19%	29%	48%	58%	42%	100%		

TABLE 7.2

MEDICAL AND PARA-MEDICAL STAFF AS OF 31.12.1989

C A T E G O R I E S ..	O M A N I S			N O N - O M A N I S			T O T A L			P E R C E N T A G E O F O M A N I S	
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	1989	1988
A. DOCTORS.....	62	17	79	606	234	840	668	251	919	9%	8%
Administrators.....	6	0	6	1	0	1	7	0	7	86%	88%
Advisors.....	1	0	1	0	0	0	1	0	1	100%	100%
Consultants.....	5	0	5	35	8	43	40	8	48	10%	11%
Sr.Specialists/ Specialists.....	7	4	11	88	31	119	95	35	130	8%	9%
Junior Specialists.....	4	1	5	101	29	130	105	30	135	4%	5%
Medical Practitioners..	39	12	51	381	166	547	420	178	598	9%	8%
B. DENTISTS.....	3	6	9	23	6	29	26	12	38	24%	26%
C. PHARMACISTS.....	2	2	4	14	9	23	16	11	27	15%	15%
D. NURSING STAFF.....	165	229	394	143	2737	2880	308	2966	3274	12%	12%

70

MEDICAL AND PARA-MEDICAL STAFF AS OF 31.12.1989

C A T E G O R I E S ..	O M A N I S			N O N - O M A N I S			T O T A L			P E R C E N T A G E O F O M A N I S	
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	1989	1988
E. OTHER PARA-MEDICAL STAFF	1434	824	2258	697	338	1035	2131	1162	3293	69%	68%
Chemists & Assistant Chemists.....	0	3	3	2	1	3	2	4	6	50%	50%
Assistant Pharmacists.. Dispensers.....	4 9	1 0	5 9	64 47	16 6	80 53	68 56	17 6	85 62	6% 15%	5% 15%
School Health Visitors. Midwives.....	0 0	0 1	0 1	0 0	35 82	35 82	0 0	35 83	35 83	0% 1%	0% 1%
Health Assistants Medical Assistants.....	16 3	0 0	16 3	63 21	2 1	65 22	79 24	2 1	81 25	20% 12%	20% 15%
Sanitary Inspectors/ Supervisors.....	48	0	48	103	3	106	151	3	154	31%	30%
Sanitary Assistants....	278	16	294	1	0	1	279	16	295	100%	100%
Microbiologists/ Laboratory Technicians	26	27	53	147	114	261	173	141	314	17%	14%
X-Ray Technicians.....	1	0	1	41	3	44	42	3	45	2%	2%
Radiographers.....	10	1	11	55	5	60	65	6	71	15%	16%
Dental Technicians.....	3	1	4	9	1	10	12	2	14	29%	31%
Physiotherapists/ Occupational Therapist	1	1	2	12	16	28	13	17	30	7%	6%
Medical Orderlies.....	975	766	1741	78	28	106	1053	794	1847	94%	94%
Others.....	60	7	67	54	25	79	114	32	146	46%	47%
GRAND TOTAL :	1666	1078	2744	1483	3324	4807	3149	4402	7551	36%	36%
PERCENTAGE OF TOTAL STAFF :											
1989	22%	14%	36%	20%	44%	64%	42%	58%	100%		
1988	22%	14%	36%	20%	44%	64%	42%	58%	100%		

TABLE 7.3

HEALTH PERSONNEL EMPLOYED BY THE MINISTRY OF HEALTH

1983 - 1989

<u>C A T E G O R I E S</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
ADMINISTRATORS/ ADVISORS...	6	7	7	8	9	9	8
CONSULTANTS.....	11	16	24	24	37	45	48
SNR SPECIALISTS/SPECIALISTS	87	90	95	108	122	136	130
JUNIOR SPECIALISTS.....	54	57	67	86	120	129	135
MEDICAL OFFICERS.....	307	402	445	448	548	588	598
DENTISTS.....	22	23	23	27	31	35	38
PHARMACISTS.....	16	18	22	23	25	26	27
NURSES.....	1386	1753	1947	2057	2973	3260	3274
OTHER PARA-MEDICAL STAFF...	2261	2490	2722	2819	3099	3285	3293
<u>T O T A L.....</u>	<u>4150</u>	<u>4856</u>	<u>5352</u>	<u>5600</u>	<u>6964</u>	<u>7513</u>	<u>7551</u>

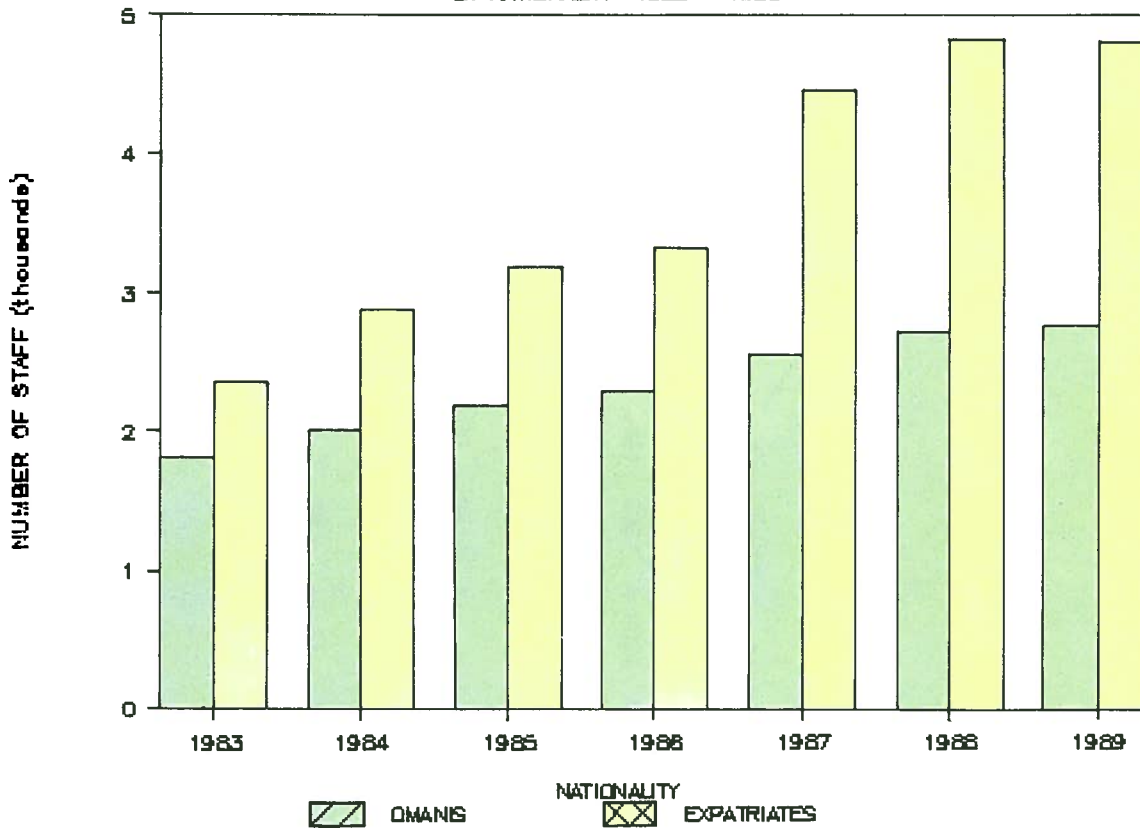
TABLE 7.4

TOTAL MEDICAL/HEALTH PERSONNEL - at end of 1989 and 1988

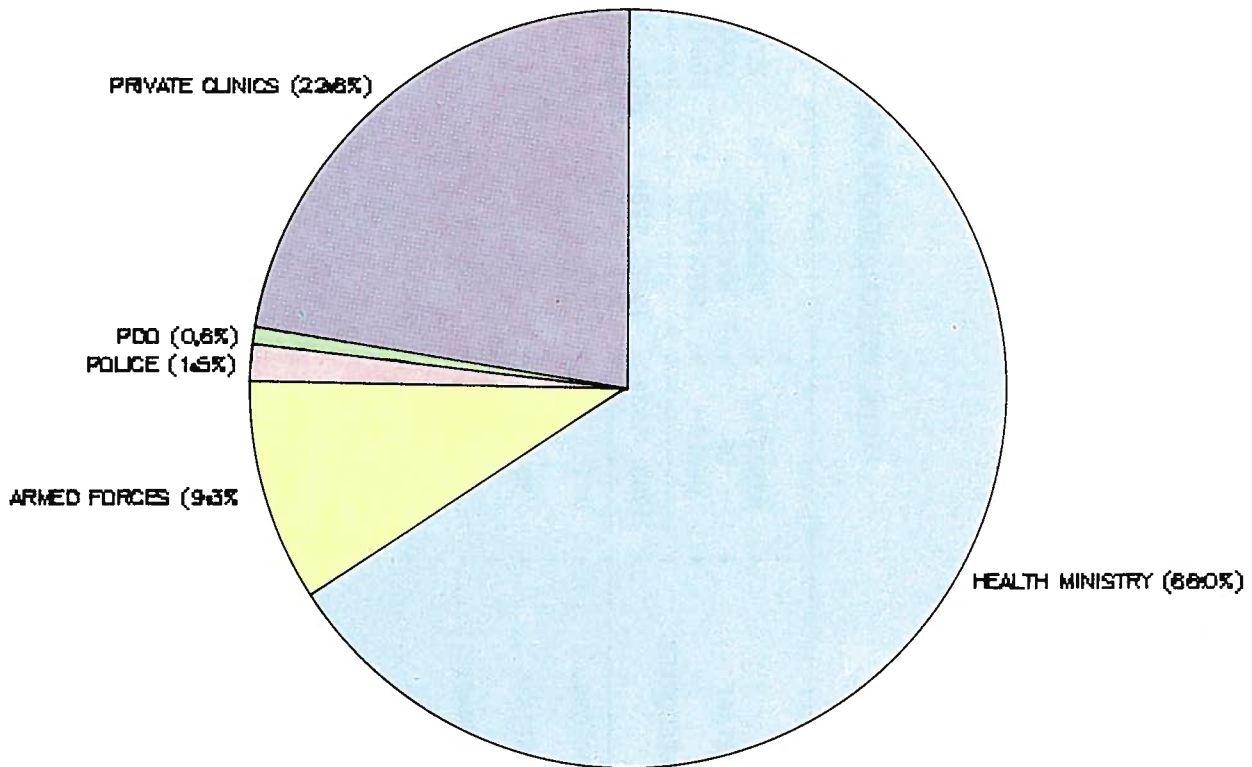
STAFF CATEGORIES	MINISTRY OF HEALTH		FORCES MEDICAL SERVICES		ROYAL OMAN POLICE		PETROLEUM DEVELOPMENT OMAN		PRIVATE CLINICS		PRIVATE PHARMACIES		T O T A L		PERCENTAGE UNDER HEALTH MINISTRY	
	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988
DOCTORS.....	919	907	129	110	21	23	9	9	314	322	0	0	1392	1371	66%	66%
DENTISTS.....	38	35	16	16	2	2	0	0	41	43	0	0	97	96	39%	36%
PHARMACISTS....	27	26	22	22	5	5	1	1	0	0	180	181	235	235	11%	11%
NURSES.....	3274	3260	204	154	78	66	29	30	281	300	0	0	3866	3810	85%	86%
OTHER PARA- MEDICAL STAFF..	3293	3285	710	716	46	49	40	39	107	81	68	72	4264	4242	77%	77%

MEDICAL AND PARAMEDICAL STAFF

BY NATIONALITY 1983 - 1989



DISTRIBUTION OF DOCTORS BY SECTOR



8. HEALTH CARE PROVIDED BY OTHER DEPARTMENTS/ORGANIZATIONS

In addition to the Ministry of Health which is the main agency responsible for health services, the Ministry of Defence, Royal Oman Police and Petroleum Development Oman provide health care for their employees and dependants. The services provided by these organizations and their utilization is shown in Tables 8.1 to 8.3.

At the end of 1989 (1988), these three organizations had 4(3) hospitals and 42 (43) clinics with 592 (543) beds. At the end of 1989 (1988), they employed 159 (142) physicians, 18 (18) dentists, 28 (28) pharmacists, 311 (250) nursing personnel and 796 (804) other paramedics. During 1989 (1988) they admitted 9.8 (12.1) thousand inpatients, and treated 701 (662) thousand outpatients. The major decrease occurred in the Forces Medical Service where inpatient admissions decreased by 28%.

2. Private companies and individuals also operate clinics, as shown by region in Table 8.4. At the end of 1989 (1988), there were 264 (270) general clinics, 14 (11) specialized clinics and 39 (40) dental clinics. The number of private pharmacies increased slightly from 141 in 1988 to 145 in 1989.

TABLE 8.1

HEALTH FACILITIES (NON-HEALTH MINISTRY ORGANIZATIONS) AS OF 31-12-1989

F A C I L I T I E S	ARMED FORCES MEDICAL SERVICES		ROYAL OMAN POLICE		PETROLEUM DEVELOPMENT OMAN		TOTAL	
	1988	1989	1988	1989	1988	1989	1988	1989
<u>H O S P I T A L S</u>								
Number.....	2	3	1	1	0	0	3	4
Beds.....	208	255	63	65	0	0	271	320
<u>DISPENSARIES/ CURATIVE CENTRES</u>								
Number.....	29	27	4	4	10	11	43	42
Beds.....	234	234	0	0	38	38	272	272
<u>DISTRIBUTION OF BEDS BY SPECIALITY:</u>								
General.....	49	53	0	0	31	31	80	84
Surgery.....	58	58	10	10	0	0	68	68
Medicine.....	40	38	11	15	0	0	51	53
Obstet. & Gynae...	30	30	24	12	5	5	59	47
Paediatrics.....	14	14	10	10	2	2	26	26
Isolation.....	24	22	0	0	0	0	24	22
Urology.....	0	0	0	0	0	0	0	0
Orthopaedics.....	0	0	0	0	0	0	0	0
Others	227	274	8	18	0	0	235	292
TOTAL BEDS	442	489	63	65	38	38	543	592

TABLE 8.2

MEDICAL & PARA-MEDICAL PERSONNEL EMPLOYED (NON-HEALTH MINISTRY ORGANIZATIONS) AS OF 31.12.1989

C A T E G O R I E S	FORCES MEDICAL SERVICES			ROYAL OMAN POLICE			PETROLEUM DEVELOPMENT OMAN			T O T A L		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Medical Administrators/ Specialists.....	32	14	46	7	2	9	2	0	2	41	16	57
Medical Officers.....	74	9	83	10	2	12	7	0	7	91	11	102
Dentists.....	16	0	16	2	0	2	0	0	0	18	0	18
Staff Nurses/Asst. Nurses/ Public Health Nurses.....	41	163	204	15	63	78	29	0	29	85	226	311
Mid-wives.....	0	23	23	0	10	10	0	8	8	0	41	41
Health Visitors.....	0	3	3	0	0	0	0	0	0	0	3	3
Health Assistants.....	0	0	0	0	0	0	9	0	9	9	0	9
Sanitary Inspectors.....	8	0	8	0	0	0	4	0	4	12	0	12
Sanitary Assistants.....	13	0	13	0	0	0	0	0	0	13	0	13
Laboratory Technicians/ Assistant Lab Technicians..	27	1	28	7	3	10	3	0	3	0	0	0
Radiographers.....	8	1	9	0	1	1	0	1	1	37	4	41
X-Ray Technicians/ Assistant X-Ray Technicians	8	0	8	3	1	4	0	0	0	11	1	12
Dental Technicians/ Assist. Dental Technicians.	18	0	18	3	4	7	0	0	0	21	4	25
Physiotherapists.....	10	2	12	1	1	2	0	1	1	11	4	15
Pharmacists.....	20	2	22	5	0	5	1	0	1	26	2	28
Assistant Pharmacists.....	0	0	0	0	0	0	1	0	1	1	0	1
Medical Orderlies.....	545	2	547	2	10	12	10	0	10	557	12	569
Others.....	40	1	41	0	0	0	3	0	3	43	1	44
G R A N D T O T A L :	860	221	1081	55	97	152	69	10	79	984	328	1312

TABLE 8.3

UTILIZATION OF HEALTH SERVICES (NON-HEALTH MINISTRY ORGANIZATIONS) - 1989 & 1988

ACTIVITIES	FORCES MEDICAL SERVICES		ROYAL OMAN POLICE		PETROLEUM DEVELOPMENT OMAN		TOTAL	
	1988	1989	1988	1989	1988	1989	1988	1989
INPATIENTS								
Number of staffed beds..	442	489	63	65	38	38	543	592
Total Discharges.....	9,222	6,635	2,656	2,953	195	241	12,073	9,829
Deaths.....	121	0	7	8	0	0	128	8
Total patient days.....	44,919	55,362	0	n.a.	n.a.	841	n.a.	n.a.
Mean length of stay.....	5.0	8.0	n.a.	n.a.	n.a.	3.0	n.a.	n.a.
Bed Occupancy rate.....	28%	31%	n.a.	n.a.	n.a.	6%	n.a.	n.a.
Total deliveries.....	564	965	484	618	46	60	1,094	1,643
Livebirths.....	561	950	483	616	46	60	1,090	1,626
Stillbirths....	3	15	1	2	0	n.a.	4	17
Major Operations done...	285	284	158	70	0	0	443	354
Minor Operations done...	2,180	2,174	981	993	9	11	3,170	3,178
OUTPATIENTS								
Patients treated in OPD.	443,727	461,222	169,963	189,501	47,877	50,501	661,567	701,224
Daily average number....	1,212	1,264	464	519	131	138	1,808	1,921

TABLE 8.4

NUMBER OF CLINICS AND MEDICAL PERSONNEL IN THE PRIVATE SECTOR BY REGIONS - 31.12.1989

REGIONS	NUMBER OF CLINICS			TOTAL CLINICS		PRIVATE PHARMACIES		SPECIAL -IST DOCTORS	GENERAL DOCTORS	DEN- TISTS	PHARMA- CISTS	NUR SES	OTHER PARA- MEDICS	TOTAL PERSONNEL	
	TYPE GEN- ERAL	OF SPEC -IAL	CLINIC DEN- TAL	1989	1988	1989	1988							1989	1988
MUSCAT.....	61	7	19	87	91	61	58	17	87	21	96	76	109	406	401
JANUBIA....	11	1	4	16	15	17	16	2	14	4	17	9	11	57	50
DAKHILYA...	20	0	3	23	24	9	9	0	22	3	9	14	5	53	57
SHARQIYA...	27	0	3	30	27	13	13	0	31	3	13	12	3	62	56
BATINAH....	86	2	8	96	103	31	31	2	93	8	31	63	12	209	216
DHAHIRA....	18	4	2	24	20	13	13	4	22	2	13	12	7	60	57
MUSANDAM...	0	0	0	0	0	1	1	0	0	0	1	0	0	1	1
T O T A L :	223	14	39	276	280	145	141	25	269	41	180	186	147	848	838
PRIVATE COMPANIES :	41	0	0	41	41	0	0	0	20	0	0	95	28	143	161
GRAND TOTAL :	264	14	39	317	321	145	141	25	289	41	180	281	175	991	999

9. FINANCE

The initial 1989 budget allocation for the Ministry of Health was RO 83.3 million - almost the same as the RO 83.8 million of 1988. This included RO 70.4 million for recurrent expenditure and RO 12.8 million for development expenditure. The development expenditure was then increased to RO 14.7 million, compared with RO 12.1 million in 1988. The recurrent expenditure which had increased by 12% from RO 63.8 million in 1987 to RO 71.7 million in 1988 decreased slightly to RO 70.4 million in 1989. This was the result of an increase of RO6 million in salaries and allowances being offset by a reduction of the same amount in Supplies, materials, maintenance and other miscellaneous expenses.

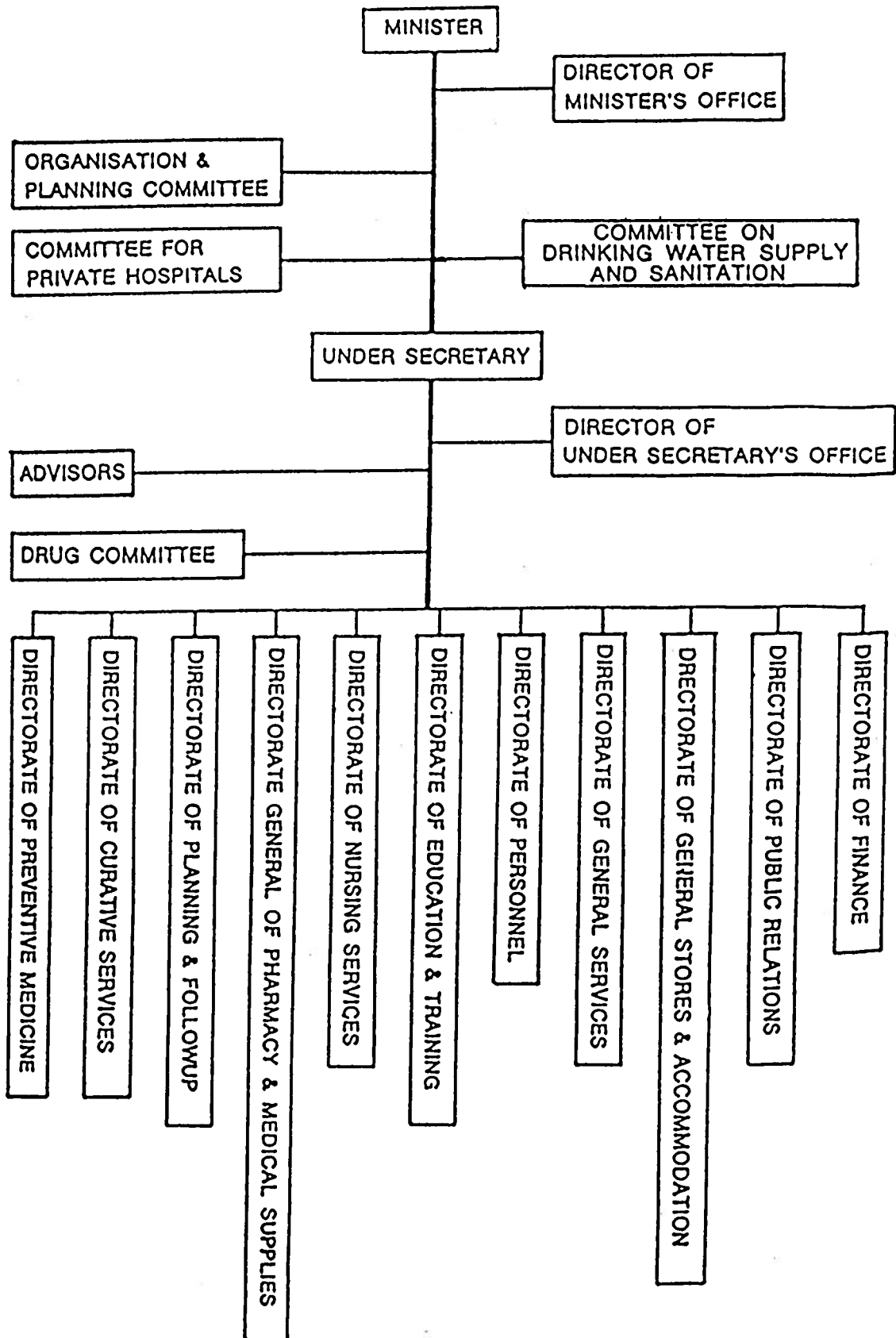
The breakdown of the recurrent expenditure for the last three years is detailed below:-

	<u>1989</u>	<u>1988</u>	<u>1987</u>
	(million riyals)		
(i) Salaries, allowances etc.....	46.1	40.4	39.2
(ii) Furniture, equipment, vehicles etc.....	1.6	2.0	1.8
(iii) Supplies, materials, repairs, maintenance & Miscellaneous..	22.8	29.2	22.8
<u>T o t a l :</u>	<u>70.4</u>	<u>71.7</u>	<u>63.8</u>

The recurring expenditure, excluding the Salaries, allowances etc of section (i) above, was distributed among different Directorates as follows:-

	<u>1989</u>	<u>1988</u>	<u>1987</u>
	(million riyals)		
Royal Hospital.....	6.2	8.7	7.2
Directorate of Curative Services....	6.7	6.6	6.4
Directorate General of Pharmacy & Medical Supplies.....	5.0	5.1	5.1
Directorate of General Services.....	4.2	4.0	2.7
Directorate of General Stores & Accommodation.....	1.1	1.0	1.0
Directorate of Preventive Medicine..	0.4	0.4	0.5
Other Directorates.....	0.8	5.2	1.8
Health Service Development Programmes	0.09	0.2	-
<u>T o t a l :</u>	<u>24.4</u>	<u>31.2</u>	<u>24.6</u>

ORGANISATION CHART OF THE MINISTRY OF HEALTH



APPENDIX 2 HEALTH INSTITUTIONS OF REGIONS AND SUB-REGIONS AS OF 31.12.1989

REGION	HOSPITALS	HEALTH CENTRES	MCH CENTRES (M)=Maternity Centre	PUBLIC HEALTH UNIT (C)=Public Health Compound	MALARIA CONTROL CENTRES
(1) MUSCAT	ROYAL	AL AMIRAT	MUTTRAH		
	KHOULA	SEEB	DARSEIT		
	AL NAHDHA	AL KHOD			
	AR RAHMA	NEW AL KHOD			
	IBN SINA				
	MUSCAT				
	ASSADA (closed for inpatients from August 1989)				
	QURIYAT	DAGMAR		QURIYAT	
		SIYA		SIYA	
		HAIL AL GHAFF		MAZARA	
		MAZARA			
		YETI			
(2) JANUBIA	QABOOS	AL KAHIL		SALALAH (C)	
	RAKHYUT	ASHUWAIMIYAH		TAWI ATTAIR	
	SUDH	DHALQUT		RAKHYUT	
	MADINAT AL HAQ	GHADOW		SUDH	
	TAWI ATTAIR	HADBEEN		MADINAT AL-HAQ	
		HAIGHAF		DHALQUT	
		HASIK		JIB JAT	
		JIBJAT		QEIRON HEIRITI	
		KHADRAFI		GHADOW	
		KURIA MURIA			
		LIQBI			
		MAKINAT SHAHAN			
		MARSID			
		MIRBAT			
		MUDHAI			
		PORT RAYSUT			
		QEIRON HEIRITI			
		RIMA			
		SHAHIB ASSAIB			
		SHARBITHAT			
		SHELEEM			
		SOGHARA			
		TAQA			
		TEYTUM			
		THAMRAIT			
		UMBUSHEQ			
		+ 5 Mobile Medical Teams			

HEALTH INSTITUTIONS OF REGIONS AND SUB-REGIONS AS OF 31.12.1989

REGION	HOSPITALS	HEALTH CENTRES	MCH CENTRES (M)=Maternity Centre	PUBLIC HEALTH UNITS (C)=Public Health Compound	MALARIA CONTROL CENTRES
(3) DHAKILYA	NIZWA	AL HAMRA		NIZWA (C)	ADAM
	BAHLA	MANAH		BAHLA	
	ADAM	AL GHAFAT		ADAM	
	HAIMA	AL MAMoor		AL-HAMRA	
	JABAL AKHDAR	BARKAT AL MOUZ		DUQUM	
	DUQUM	BISIYA		BISIYA	
				HAIMA	
		SUMAIL	FANJA	SUMAIL (C)	WADI BANI
		IZKI	WADI MAHRAM	IZKI	RAUWAHA
			WADI BANI RAUWAHA	WADI MAHRAM	
		QURIYATEEN	QURIYATEEN		
(4) SHARQIYA	IBRA	AL MUDHAIBI	IBRA	MUDHERIB	IBRA
	BIDIYAH	AL DREEZ		BIDIYAH	MUDHAIBI
	WADI TAYEEN	MUDHERIB		AL AFLAJ	
	SINAW	AL AFLAJ		SAMAD AL SHAAN	
	SAMAD AL SHAAN	MAHOOT (OLD AL HAJJ)		WADI TAYEEN	
	WADI BANI KHALID	AL DHAHIR		WADI BANI KHALID	
		SUR	TIWI	SUR (C)	
		MASIRAH	RAS AL HAD	TIWI	
			AIGA	MASIRAH	
	B.B. BU ALI	QUMAILA	RAS AL HAD		
	B.B. BU HASSAN	AL ASHKARA	B.B. BU ALI		
		AL SUWAIH	B.B. BU HASSAN		
		AL RUWAIIS	QUMAILA		
		AL WAFI	AL ASHKARA		
		AL GHAINA	AL RUWAIIS		
		AL KAMIL	AL GHAINA		
		FALAJ AL MASHAIKH	AL KAMIL		
			FALAJ AL MASHAIKH		

HEALTH INSTITUTIONS OF REGIONS AND SUB-REGIONS AS OF 31.12.1989

REGION	HOSPITALS	HEALTH CENTRES	MCH CENTRES (M)=Maternity Centre	PUBLIC HEALTH UNITS (C)=Public Health Compound	MALARIA CONTROL CENTRES
(5) NORTH BATINAH	SOHAR SAHAM WADI SARAMI WADI HAWASNA	SUWAIQ KHABURA LIWA SHINAS ABU BAQRA WADI SHAFAN MASHAIQ KHATMAT MALAHA	HAIBI (M)	SAHAM (C) SOHAR WADI SARAMI WADI HAWASNA WADI SHAFAN LIWA	MASNAH SHINAS
(6) SOUTH BATINAH	RUSTAQ WADI MISTAL WADI HEMLI WADI BANI GHAFIR WADI BANI KHAROOS	BIRKA MASNAH AWABI NAKHAL WADI SAHTAN AFI HOQEIN		RUSTAQ WADI BANI KHAROOS WADI MISTAL WADI BANI GHAFIR WADI HEMLI WADI SAHTAN HOQEIN	RUSTAQ
(7) DHABIRA	TANAM YANKUL	IBRI SUNAINA MUQNIYAT MAMUR HAJEERMAT DHANK WADI FIDA		TANAM SUNAINA DHANK WADI FIDA	YANKUL
	BURAIMI WADI JIZZI	AL FAYADH	MAHDHA (M)	BURAIMI (C) WADI JIZZI AL FAYADH	
(8) NUSANDAM	KHASAB DIBBA (old BAYA) BUKHA	LIMA KUNZAR	BUKHA MADHA (M)	KHASAB KUNZAR LIMA	DIBBA (old BAYA)
NUMBER	47	88 + 5(MMT)	4 + 3(M)	60 + 6(C)	9