



WORLD HEALTH ORGANIZATION
ORGANISATION MONDIALE DE LA SANTÉ

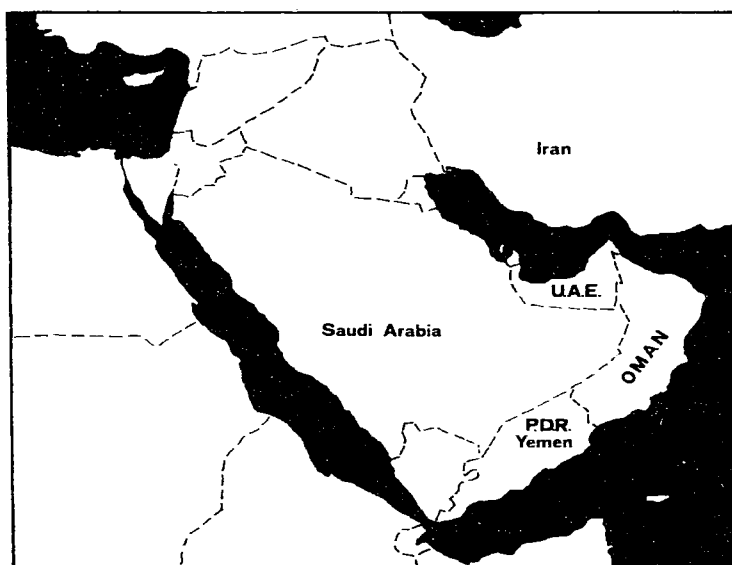
WHO/SE/78.117
Global Commission WP/78.36
ENGLISH ONLY

INDEXED

**REPORT TO
THE GLOBAL COMMISSION
FOR CERTIFICATION OF
SMALLPOX ERADICATION**



OMAN



**MINISTRY OF HEALTH
OMAN**

WORLD HEALTH ORGANIZATION

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OMAN

1. BACKGROUND INFORMATION

1.1 Geography

The Sultanate of Oman lies in the extreme south-east corner of the Arabian Peninsula. It extends from the Democratic Republic of Yemen in the south to the United Arab Emirates in the north. Its area is 272 000 sq. km. Its territories include the Batinah, Dhahira, Interior of Central Oman, Ja'alan, Sharqiya or Eastern District, the Southern District of Dhofar, Ras Musandam, a number of Islands, the largest of which is Masirah.

Northern Oman is a land of craggy barren mountains, shimmering heat, dazzling sunlight and desert, bordered by blue seas. A range of mountains stretches 400 miles from the north at the head of the Musandam Peninsula at the entrance of the Gulf, to distant Ras al Hadd on the south-eastern tip of the Arabian Peninsula. This range, known as the Hajar mountains, expands at its centre into a massif, dominated by a high limestone plateau called Jabal Shams, which rises to 3 250 metres, the highest peak of the Hajar range. To the east lies the Batinah, a narrow coastal plain bordering the Gulf of Oman, 50 km. across at its widest point, tapering away to north and south, where the mountains come down to the sea. To the west the Hajar mountains slope away into the interior of Arabia, where broad wadi beds meander across a high gravel plain, until they are lost in the sands of the Rub Al-Khali, or Empty Quarters.

To the south-west, across several hundred miles of desert plains lies the Southern Region of Dhofar. Here the Qara mountains, backing a coastal plain, catch the south-west monsoon winds which precipitate gentle rains on the southern slopes of the mountains from June to the end of September. Over 80% of Oman's total area is wadi or desert, 15% mountains and only 3% coastal plain.

1.2 Climate

With the exception of Dhofar, the climate of Oman is harsh and arid. The summers (May to September) are long, dry, especially in the interior, and very hot. In the interior deserts shade temperature can rise to over 54°C; on the coast maximum temperatures are somewhat lower but accompanied by high humidity. The winter season, lasting from November to March, is mild and delightful. Rainfall on the coasts and over the desert plains of the interior, ranges from 25-125 mm; over the mountains it may reach 375 mm.

1.3 Population

No population census has so far been conducted in Oman. Therefore estimates of the population range from 700 000 to the official Government figure of 1.5 million. The population can be divided roughly into three groups: the inhabitants of the coastal belt, the mountain tribes and the bedouins of the desert. The greatest density of population is in the area of Muscat, the capital, and along the Batinah coast. Here the population of urban dwellers, fishermen and cultivators is mixed, with communities of Indian descent, particularly in the Muscat-Matrah area, as well as Baluchis.

The Baluchis are one of the largest of these Muslim communities. Many came from the principality of Gwador on the Coast of Pakistani Baluchistan. They have concentrated their settlements along the Batinah coast as well as in Muscat and Matrah. Some have also settled in the Interior (Bani Baluch) and have completely integrated themselves into the tribal context. The Baluchis speak Arabic and dress like Omanis but have retained certain distinctive characteristics.

The Khoja community, known in Oman as the "Lawatiya", came from the Indian sub-continent where it was a caste which specialized in foreign trade. They are Shiites (the second largest sect in Islam) and have settled mostly in Matrah, near the suq, and are mainly merchants.

Omanis of East African origin represent a very large fraction of the coastal population. Their ancestors lived in Zanzibar at the time of the association of Oman with Zanzibar. They speak mainly Swahili and English but not always Arabic. There are also many Africans whose ancestors have been in Oman for many centuries.

Other small ethnic groups exist in the interior and form an integral part of the tribal system.

1.4 Government

The Sultanate of Oman, known as the Sultanate of Muscat and Oman until 1970, is an independent sovereign State. The Sultan rules with the advice of an appointed Cabinet. Legislation is by decree. The country is divided into what are called "Welayat", the head of which is a "Wali" (Representative of H.M. the Sultan). There are forty-one welayas in Oman, the largest of which is Dhofar in the southern part of the country.

1.5 Education

Until 1970 there were only three schools in Oman and it has been estimated that as many as 80% of Omanis are still illiterate. In 1977, there were 261 schools and 64 975 pupils, and over 30% of children of primary school age were receiving education. Secondary education is still extremely limited and all Omanis with secondary or further education have obtained it abroad, but plans are being implemented for the development of technical and agricultural training and craft training at intermediate and secondary level. There are also programmes to combat adult illiteracy.

1.6 Communications

A network of adequate graded roads link all the main sectors of population and only a few mountain villages are not accessible by four-wheel-drive vehicle. A rapid road construction programme began in 1976 and nearly 800 km of paved road have been completed in Northern Oman, including the trunk road from Matrah to Sohar. Tarmac roads now connect Sohar to Buraimi, Bidbid to Sur, Al Qabil to Ibri, and Ibri to Nizwa.

Gulf Air fly regional services in and out of Seeb International Airport, near Muscat. A number of other airlines also serve Muscat. Internally, there is a daily Gulf Air flight from Muscat to Salalah.

Cable and Wireless Ltd. maintain a telegraph office at Muscat and an automatic telephone exchange (3 701 lines, 1976) which includes Matrah, Bait-Al-Falaj and Mina Al-Fahal, the oil company terminal. Also there are radio telephone, telex and telegraph services direct between Salalah and Muscat.

2. HEALTH SERVICES

2.1 General

The health services, both preventive and curative, really emerged, as did other aspects of modern life, after H.M. Sultan Qaboos Bin Said came to power on 23 July 1970.

A mere glance at a map showing the Health Services, which cover the whole surface area of the Sultanate from its extremity in the north to the southern extremity, will make it clear that huge efforts have been made by the Ministry of Health (Figure 1). At present the Ministry is providing medical treatment and drugs to the citizens free of charge. The budget allotted to the Ministry in 1976 was over 17 million Omani rials.

Judging from statistics on out-patient services (Table 1), the Omanis are utilizing these services well, despite difficulties of transportation. Most patients visit the out-patient clinics of the hospitals. The combined admission rates for hospitals and health centres ranges from 30 to 68 per cent.

The main known health problems in Oman are trachoma and tuberculosis, and schistosomiasis was discovered in Omani citizens coming back from Zanzibar.

FIG. 1 DISTRIBUTION OF HEALTH FACILITIES

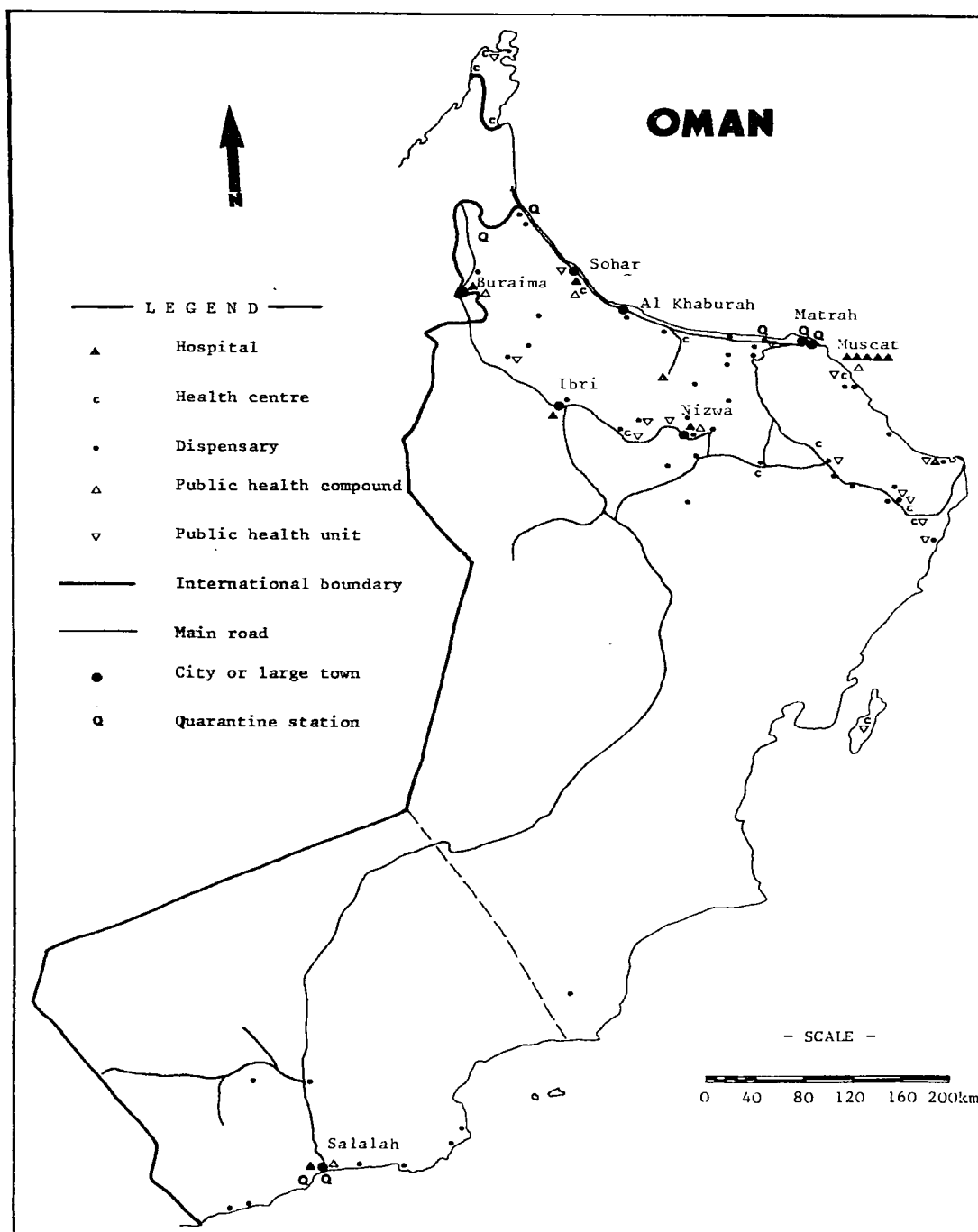


TABLE 1
OUTPATIENT VISITS (FIRST HALF 1975)^a

Description	New Visits			Revisits			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Hospitals	106 981	122 952	229 933	150 514	260 924	411 438	257 495	383 876	641 371
Health Centres	43 545	63 712	107 257	72 371	126 949	199 320	115 916	190 661	306 577
Dispensaries	106 345	110 397	216 742	80 758	121 875	202 633	187 003	232 272	419 275
TOTAL	256 871	297 061	553 932	303 643	509 748	813 391	560 414	806 809	1 367 223

^a On the basis of the official population the average outpatient attendance is around two visits per year per person

2.2 Public Health Structure

The Ministry of Health was established in August 1970, when the Minister and the Under-Secretary took office, and its new and modern building was inaugurated at the end of 1976.

The Ministry has two main departments: the Medical Services Department and the Public Health Department (Figure 2). The Medical Services Department is responsible for all curative services provided by hospitals, health centres and dispensaries in Oman. The Public Health Department is in charge of preventive medicine.

The following are the health facilities under the administration of the Ministry of Health:

<u>Type of Institution</u>	<u>Number</u>
Hospitals	13
Health Centres	11
Public Health Compounds	4
Dispensaries	42
Public Health Units	9

Their wide geographical distribution is shown in Figure 1.

There are no private hospitals in Oman, but there is private accommodation in all Government hospitals and Health Centres.

The ambulance service is run by the police, so that naturally its sole function is transportation of casualty cases to the hospitals. However, there is a helicopter service run by the army which transports patients to the Capital and back. In Dhofar there is also a flying doctor service which provides medical care to isolated areas in the mountains.

2.3 Health Manpower (refer Table 2)

The specialists of the staff of all the hospitals are neither adequate in their total number nor in their coverage of the important specialities. Some specialities are only practised in the Capital. Health centres are staffed by general practitioners and

FIG. 2 ADMINISTRATIVE STRUCTURE OF THE MINISTRY OF HEALTH AND THE DEPARTMENTS OF PUBLIC HEALTH AND MEDICAL SERVICES

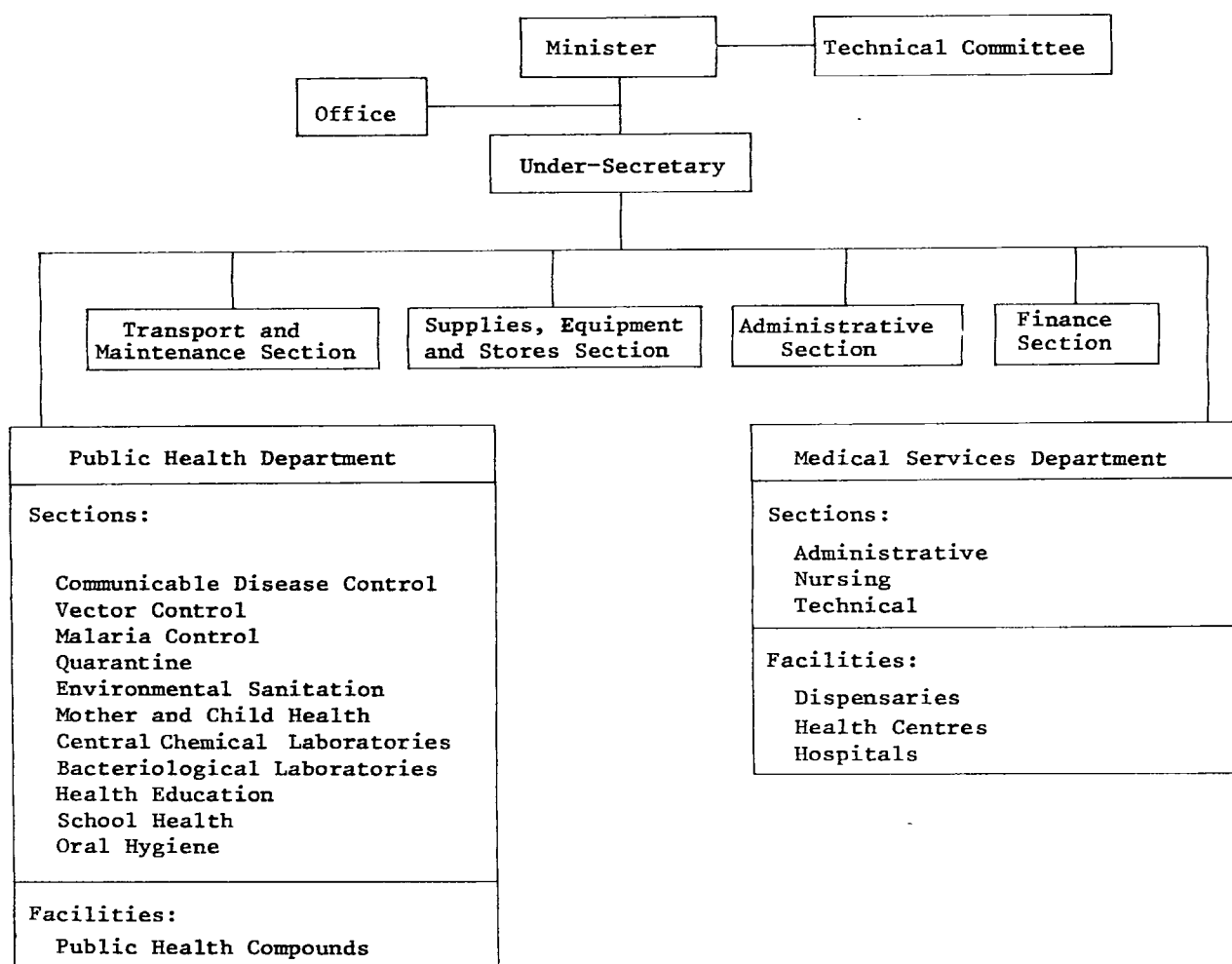


TABLE 2
MINISTRY OF HEALTH EMPLOYEES, 1976 ^a

Position	Number
Specialist Physicians	59 ^b
General Practitioners	101
Dentists	9
Pharmacists	7
Planning and Administrative Advisers	2
Technicians	38
Administrators	64
Clerks	208
Physiotherapists	2
Nursing Officers	31
Nurses and Assistant Nurses	491
Midwives	18
X-Ray Technicians and Asst. Technicians	42
Laboratory Technicians & Asst. Lab. Technicians	62
Dental Technicians & Asst. Dent. Technicians	5
Health Assistants	94
School Health Visitors	24
Sanitary Assistant	64
Assistant Pharmacists & Drug Store Keepers	61
Orderlies	572
Vehicle and Boat Drivers	190
Professional Workers	135
Farrash, Labourers, Watchmen and Others	670
Total	2949

^a As of 31 December 1976 these 2,949 staff filled 78% of available positions.

^b In 1975 85% of the 60 specialists were Indian or Pakistani and only 2 were Omani.

dispensaries by health assistants. The bed/nurse staffing ratio is satisfactory, being 1:2.88 in hospitals and 1:3.24 in health centres. In addition, hospitals, health centres and dispensaries are staff by reasonable numbers of medical orderlies. Overall, approximately 13% of the medical staff are Omanis.

Considering the continuous growth of health and other services and the general economic development in Oman, there is a wide gap between the positions available and the present number of potential candidates. The Ministry is attempting to bridge this gap in the shortest possible time. A separate training department has been established in the Ministry in order to promote the training of paramedical personnel and coordinate the training of Omani staff abroad. The one school of nurses, in Al Rahma hospital, provides a two-year

training programme conducted in English. The candidates are required to have at least six years of general primary education before admission. In the years 1972-1976 a total of 33 nurses graduated, and a further 26 were studying at the end of this period. There is also a twelve months' training programme for medical orderlies.

2.4 Communicable Diseases Control

The Department of Preventive Medicine in the Ministry now comprises the sections as listed in Figure 2.

Most of these sections were established in 1975 and 1976. Each section is responsible, in its field, all over the country through the network of Public Health Compounds and related subsidiary units. Among the diseases against which the Ministry of Health is taking specific preventive and control measures are: malaria, gastro-enteritis and trachoma, which are the most prevalent diseases.

The Communicable Diseases Control Section is mainly responsible for:

- Registration of notification pertaining to communicable diseases from all medical institutions and the organization of appropriate preventive measures.
- Collection and compilation of monthly returns of communicable diseases from hospitals, health centres and dispensaries, and preparation of monthly statements of notified diseases. (Annex 1)
- Organization of mass vaccination campaigns and communicable disease surveys.
- Registration of Haj pilgrims for application of necessary health measures before their departure and for follow-up after their return from Mecca.
- Registration and certification of notified deaths.
- Supervision of Central Vaccination Centre and distribution of vaccines.
- Food and water handlers' periodical check-up.

About 40 communicable diseases are reported, of which, in 1976, 27.2% were of the infectious and parasitic group. Table 3 shows the rash cases reported under the communicable disease yearly report of 1976.

TABLE 3
CHICKENPOX AND MEASLES CASES REPORTED, 1976

<u>Disease</u>	<u>Number of Cases</u>	<u>Percentage of Total Communicable Diseases Cases Notified</u>
Chickenpox	3 058	0.49
Measles	21 187	3.42

3. INCIDENCE OF SMALLPOX

Eight cases of smallpox were reported in 1962 in what was then known as the Trucial States of Muscat and Oman. But no record or further particulars of this outbreak were available in the Ministry of Health, which, in fact, was founded only in 1970.

Although there was a rumour that the outbreak of 1970/71 in Al Ain (Abu Dhabi - U.A.E.) was due to an importation of the infection from Oman, the Oman Ministry of Health officially declared that the country was free of smallpox at that time. More recent field investigations appear to confirm this.

During the last 16 years, the country has reportedly remained free of smallpox.

4. SMALLPOX VACCINATION

Smallpox vaccinations are provided at the Central Vaccination Centre of the Communicable Diseases Section in the Capital, as well as at the out-patient departments of all hospitals, Public Health Compounds, Health Centres and MCH clinics throughout the country. Since 1970, freeze-dried vaccine has been administered by multiple puncture method using the bifurcated needle.

In 1973/74 the Ministry undertook a mass vaccination campaign, deploying mobile teams in addition to the health units participation. Altogether, in that year 380 000 vaccinations were given. The vaccinations given in subsequent years are shown in Tables 4 and 5.

5. SPECIAL ACTIVITIES IN PREPARATION PERIOD FOR THE CERTIFICATION OF SMALLPOX ERADICATION (JANUARY - AUGUST 1978)

5.1 General

The Ministry of Health agreed to implement the plan of action for certification of smallpox eradication as decided between the Health Secretariat for the Arab States of the Gulf and WHO. The plan of action entailed the following activities:-

- (1) Individual notification of all chickenpox cases.
- (2) Collection of specimens for laboratory examinations from selected categories of cases where clinical diagnosis alone is not considered sufficient.
- (3) Smallpox facial scar survey of children under 10 years of age throughout the country.
- (4) Epidemiological investigation of all suspect or rumoured smallpox cases.

5.2 Notification of Chickenpox Cases

Chickenpox has been a notifiable disease since 1970, by numbers of cases only; however, since January and up to the end of August all health units were asked to report cases individually with all particulars. Accordingly, epidemiological details, although not always complete, were submitted for 480 cases that came to the notice of the health authorities during this period.

Analyses of these cases by age, sex and vaccination status, and by month and place of origin, are shown in Tables 6 and 7 respectively.

TABLE 4
SMALLPOX VACCINATIONS PERFORMED 1975-1978

Year	Total Smallpox Vaccinations
1975	63 328
1976	83 415
1977	102 805
1978 ^a	13 915

^a to 31 July

TABLE 5
SMALLPOX VACCINATIONS PERFORMED BY MONTH
JANUARY - JULY 1978

Month	Primary Vaccinations	Revaccinations	Total
January	268	871	1 139
February	442	1 053	1 495
March	261	1 106	1 367
April	1 536	3 711	5 247
May	200	1 442	1 642
June	99	1 802	1 901
July	36	1 088	1 124
Total	2 842	11 073	13 915

TABLE 6
AGE, SEX AND VACCINATION STATUS OF 134 NOTIFIED CHICKENPOX CASES ^a
JANUARY - AUGUST, 1978

Age (in years)	MALE		FEMALE		Total
	Vaccinated	Unvaccinated	Vaccinated	Unvaccinated	
Under 1	-	4	1	7	12
1 - 4	9	7	9	7	32
5 - 14	32	10	18	9	69
15 - 24	4	1	-	1	6
25 +	5	4	3	3	15
TOTAL	50	26	31	27	134

^a 480 of chickenpox were notified during this period but the above details were not available for 346 cases, of whom 203 were in the 5 - 14 age group and 93 in the 1 - 4 age group.

TABLE 7
NOTIFIED CHICKENPOX CASES BY MONTH AND AREA OF ORIGIN
JANUARY - AUGUST 1978

Area	Month								Total
	January	February	March	April	May	June	July	August	
Nizwa	2	9	19	12	12	6	59	12	131
Sumail	14	2	7	15	12	13	6	1	70
Massandam	1	1	-	-	1	-	-	-	3
Sinaw	-	1	-	-	-	2	2	1	6
Bahla	-	2	6	15	3	2	-	2	30
Sur	-	-	-	-	-	4	-	-	4
Salalah	22	46	3	48	11	7	4	-	141
Sohar	4	-	1	10	-	1	3	-	19
Buremyi	2	9	5	2	-	-	-	3	21
Sharkia	-	-	-	-	1	-	4	-	5
Capital Area	3	4	3	10	4	12	11	3	50
Total	48	74	44	112	44	47	89	22	480

5.3 Laboratory Specimen Collection

During the same period, January to August 1978, from unvaccinated cases, severe adult cases and other clinically doubtful cases of chickenpox, 39 specimens were collected and sent to WHO. All the results were negative for smallpox.

Details are shown in Tables 8 and 9 and in Annex 2. No chickenpox cases associated with death were reported.

TABLE 8
RESULTS OF LABORATORY TESTING
OF SPECIMENS COLLECTED, MAY - AUGUST 1978

Region of Collection	Number of Specimens	Results - number of specimens positive for:	
		Herpes Varicella (by EM)	Variola Virus
Nizwa	24	8	0
Muscat) and) Muttrah)	9	2	0
Sohar	1	0	0
Salalah	2	0	0
Ibri	1	0	0
Bahla	1	0	0
B.B.B. Hassan	1	0	0
TOTAL	39	10	0

TABLE 9
DISTRIBUTION OF 39 PATIENTS FROM WHOM SPECIMENS
WERE COLLECTED BY AGE AND VACCINATION STATUS

Age in Years	Vaccinated	Unvaccinated	Vaccination Status Unknown	Total
0 - 4	-	5	8	13
5 - 9	4	2	10	16
10 - 14	-	1	1	2
15 +	5	-	3	8
TOTAL	9	8	22	39

5.4 Smallpox Facial Scar Survey

This could not be carried out by the School Health Services, as originally envisaged, since the schools were all closed by the time the survey could be organized. However, all the health units, particularly the Public Health Compounds and the Central Mobile Team participated in the survey. Altogether, 67 060 children were seen in different parts of the country, of whom only one was thought to have some scars which could be of smallpox. This child was 9 years old and according to the parents had some skin infection in infancy but they could not say whether it was smallpox. Details are shown in Table 10.

TABLE 10
SMALLPOX FACIAL POCKMARK SURVEY

Name of locality/ town/village	Month of Examination	No. of children (under 10 years) examined	No. found with facial pockmarks
Dahira	August '78	1,257	0
Mutrah, Arrahma Hospital	July/ August '78	5,815	1
Mutrah M.C.H.	July '78	1,134	0
Tawasa	July '78	1,119	0
Quriyat Health Centre	July/ August '78	5,838	0
Sinaw Health Centre	July/ August '78	11,469	0
Nizwa Hospital and clinics	July '78	7,860	0
Sumail Hospital	July/ August '78	2,869	0
Masirah Health Centre	May/June '78	1,337	0
Bureimi (4 schools)	May '78	3,460	0
Sur Hospital	June '78	6,104	0
Salalah	June/July '78	7,629	0
Sohar Hospital/ Health Centre	July '78	7,055	0
Muscat Hospital	July/Aug. '78	4,114	0


5.5 Investigations of Rumours of Smallpox

In April 1978, a rumour came from outside sources that there were cases of smallpox in Bureymi (Buraimi), a border town adjoining Al Ain District of the United Arab Emirates. Immediate investigations were made, and it was found that the cases were chickenpox. A detailed report is in Annex 3.

5.6 Conclusion

The last reported smallpox cases were in 1962, nearly 16 years ago. Since 1970, even chickenpox cases were notifiable. Health Units exist in all areas of settled population, and remote areas, inaccessible by road, are visited weekly by the flying doctor service. The special operations carried out during this year, particularly the facial scar survey, indicate that there is no evidence of any smallpox infection at least during the last 10 years. The country can be considered to have eradicated the disease.

COMMUNICABLE DISEASE REPORTING FORMS

<p>SULTANATE OF OMAN MINISTRY OF HEALTH Public Health Department</p>		<p>Reported from : Serial No :</p>			
<p><u>Communicable Diseases Report **</u></p>					
<p>(A)</p> <p>Suspected Disease :</p> <p>Name (Full)</p> <p>Sex Age</p> <p>Full address :</p> <p>.....</p> <p>Job Description :</p> <p>Date of onset :</p> <p>Main symptoms :</p> <p>Lab. Tests :</p> <p>Date of isolation :</p> <p>Place of isolation :</p> <p>Previous vaccination : Yes/No</p> <p>Date of prev. vaccination :</p> <p>Physician's opinion for source of infection :</p> <p>Direct Home contacts & their ages :</p> <p>1)</p> <p>2)</p> <p>3)</p> <p>4)</p> <p>Name & Signature of the Physician and Stamp</p> <p>.....</p> <p>Date of Notification :</p>	<p>(B)</p> <p>Control measures for direct contacts :</p> <p>.....</p> <p>Other control measures taken :</p> <p>1) For persons :</p> <p>.....</p> <p>2) For Environment :</p> <p>a) Water</p> <p>b) Foods</p> <p>c) Drainage</p> <p>d) Vector control</p> <p>e) Animals</p> <p>f) Others (specify)</p> <p>.....</p> <p>Confirmed Diagnosis :</p> <p>.....</p> <p>Name, Signature of the Physician and Stamp</p> <p>.....</p> <p>Date of Notification :</p>				
<p>** Diseases to be Notified :</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <p>(A) Plague Cholera Smallpox Yellow Fever Typhus Relapsing Fever Anthrax</p> </td> <td style="width: 33%; vertical-align: top;"> <p>(B) C. S. Meningitis Typhoid Fever Paratophoid Fever Diphtheria Undulent Fever Psittacosis Infective Hepatitis Acute Encephalitis Tuberculosis Scarlet Fever Rabies Leprosy Glanders Acute Poliomyelitis</p> </td> <td style="width: 33%; vertical-align: top;"> <p>(C) Food poisoning Measles German Measles Whooping Cough Mumps Chickenpox Malaria Pneumonias Tetanus Influenza Dysentries Dengue Fever Filariasis Puerperal Fever</p> </td> </tr> </table>			<p>(A) Plague Cholera Smallpox Yellow Fever Typhus Relapsing Fever Anthrax</p>	<p>(B) C. S. Meningitis Typhoid Fever Paratophoid Fever Diphtheria Undulent Fever Psittacosis Infective Hepatitis Acute Encephalitis Tuberculosis Scarlet Fever Rabies Leprosy Glanders Acute Poliomyelitis</p>	<p>(C) Food poisoning Measles German Measles Whooping Cough Mumps Chickenpox Malaria Pneumonias Tetanus Influenza Dysentries Dengue Fever Filariasis Puerperal Fever</p>
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No		19		سنة		شهر	
Month							
DISTRICT:						اسم المنطقة	
Hospital:						اسم المستشفى	
Dispensary:						المستوصف	
Health Centers:						العيادة	
Remarks	ملاحظات	No of Cases	عدد الحالات	Communicable Disease	اسم المرض المعدى		
				Total Attendance	عدد المترددين		
				Enteritis	بزلة معوية		
				Meningitis	التهاب السحايا		
				Typhoid & Para.	التيفويد والباراتيفويد		
				Diphtheria	الدفتريا		
				Infect. Hepatitis	التهاب كبدى وبائى		
				Pulm. Tuberculosis	الدين الرئوى		
				Tuberculosis, other	دين غير رئوى		
				Acute Poliomyelitis	شلل الاطفال الحاد		
				Polio, late effects	شلل الاطفال القديم		
				Measles	الحصبة		
				Whooping Cough	السعال الديكى		
				Mumps	التهاب الغدة النكفية		
				Chickenpox	الجدبرى		
				Malaria	الملاريا		
				Pneumonia	الالتهاب الرئوى		
				Tetanus	التيتانوس		
				Influenza	الانفلونزا		
				Dysenteries	الدوسنتاريا		
				Filariasis	داء الفيل		
				Syphilis	الزهرى		
				Gonorrhoea	السيلان		
				V.D., other	امراض تناسلية اخرى		
				Trachoma	تراكوما		
				Vaccinations	التطعيمات		
				Smallpox	جدوى		
				Primary:	اولى:		
				Revaaccination:	دوى:		
				Cholera:	كوليرا:		

RESULTS OF LABORATORY TESTING OF SPECIMENS
COLLECTED FROM CHICKENPOX CASES

SERIAL NO.	PLACE	NAME	AGE	LABORATORY RESULTS	
				HERPES VARICELLA (BY EM)	VARIOLA VIRUS ISOLATION
1.	Nizwa Hospital	Nasser Abdulla Nasser	7	-	-
2.	" "	Nasser Saif Shein	6	-	-
3.	" "	Amina Saif Muhana	30	-	-
4.	Al-Nahdha Hospital	Mafol Mubark Mohamed	1	-	-
5.	Muscat Hospital	Seif Soud Khalfan	2	-	-
6.	Sohar Hospital	Patima Salim	5	-	-
7.	Nizwa Hospital	Latief Salem Hamoud	4	-	-
8.	" "	Salama Salem Khalfan	9	+	-
9.	" "	Laila Saleem Hamoud	-	-	-
10.	" "	Khalfan Mohd.Said	8	-	-
11.	P.H.C. Nizwa	Meimuna Said Khamis	5	+	-
12.	" "	Ahmed Said Khamis	6	+	-
13.	Al-Nahdha Hospital	Assida Mohamed	12	+	-
14.	Nizwa Hospital	Saif Hameed Saif	3	-	-
15.	" "	Fahr Mansoor Hamid	9	+	-
16.	" "	Mooza Mohd.Sulieman	6	+	-
17.	" "	Yakoob Yaser Shames	6	-	-
18.	" "	Ahmed Said Khamis	7	+	-
19.	" "	Abdulla Mohd Sulieman	4	+	-
20.	" "	Maimuna Said Khamis	5	-	-
21.	B.B.B.hassan	Shamsa Khalifa Ali Rashid	4	-	-
22.	Ibra Health Centre	Juma Rashid Nassar	23	-	-
23.	Qaboos Hospital	Rashid Rejab Ali	5	-	-
24.	Nizwa Hospital	Jalila Abdulla Nasser	4	-	-
25.	Qaboos Hospital Salalah	Rasheeda Kamis	2½	-	-
26.	Arrahma Hospital Muttrah	Nasser Mohamed Saif	3	-	-
27.	Al-Nahdha Hospital Ruwi	Shakha Said Mohamed	35	-	-
28.	Arrahma Hospital	Hamad Mohamed Saif	6	-	-
29.	Nizwa Hospital	Gamila Mohd Salam	5	+	-
30.	Ministry of Health	Saleha Abdulla Habib	2	+	-
31.	Bahla Health Centre	Aisha Talib Mohamed	10	-	-
32.	Ministry of Health	Zawan Mubarak	5	-	-
33.	Arrahma Hospital	Mohanani Kunjini	22	-	-
34.	Nizwa Health Centre	Eada Mohd Khalfan	20	a	a
35.	" "	Saida Said Sulieman	35	a	a
36.	" "	Mohd Khalfan Hamed	46	a	a
37.	Nizwa Hospital	Mohd Salim Shahloob	-	a	a
38.	" "	Moza Mohd Athman	10/12	a	a
39.	" "	Khamis Sleym Sulieman	-	a	a

a = Results pending

INVESTIGATION OF THE RUMOUR OF A SMALLPOX CASE IN BUREMYI

Examination of the records and questioning of all the staff in Buremyi Hospital and further enquiries all-round revealed the following.

On 5 April 1978 a young, inexperienced medical officer saw a case in the outpatients department which he thought could be smallpox and admitted it. The patient was a woman, aged 45 years, not previously vaccinated, from Yenkal, one of the villages in the district. The medical officer of the ward saw the case immediately on admission, disagreed with the diagnosis, and considered it a case of chickenpox because of the various stages of the lesions found at the same time. However, he called in the medical officer in charge of the local P.H. compound for a second opinion.

The latter confirmed it to be a case of chickenpox. However, to be on the safe side, all the staff and the patients in the hospital, as well as the immediate relatives of the woman visiting her, were immediately vaccinated. The patient was strictly isolated and the P.H. officer watched the nature and development of the lesions every day. It is said that two more crops of lesions appeared on subsequent days.

As it was a clear and simple case of chickenpox, no specimen for laboratory examination was taken. In fact, the P.H. officer used this opportunity to discuss the differential diagnosis of smallpox and chickenpox with all the staff of the hospital for their edification. Everyone was shown the superficial nature and the concurrently dissimilar stages of the lesions.

On 8 April the patient was vaccinated against smallpox, as a test, and on 15 April a successful reaction was noted - confirmatory evidence that it was not smallpox. The patient made a rapid recovery with no scarring on the face or body and was discharged on 17 April. The Public Health doctor kept the Ministry informed of this case and submitted a written report on 8 April.

Epidemiological enquiries showed that there were no smallpox cases earlier or later anywhere in the area, whereas there were many chickenpox cases. In fact there had been two cases of chickenpox earlier in the village of Yenkal from where the woman had come, and she had not travelled anywhere before her illness.

The woman returned to the hospital on 7 July and died a day later, because of chronic renal failure. At this time, it was noted that there were no scars on the face except for a couple of depigmented spots as a result of the chickenpox.

The rumour arose because the outpatient doctor put in a provisional diagnosis of smallpox. He later confessed as to never having seen a case of smallpox and was scared because his wife, who is also a doctor in the hospital, was pregnant at that time. Also, because of the precautionary vaccination activity, the rumour must have been thought to be true. The clinical findings and the epidemiological enquiries prove conclusively that it was a case of chickenpox.

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