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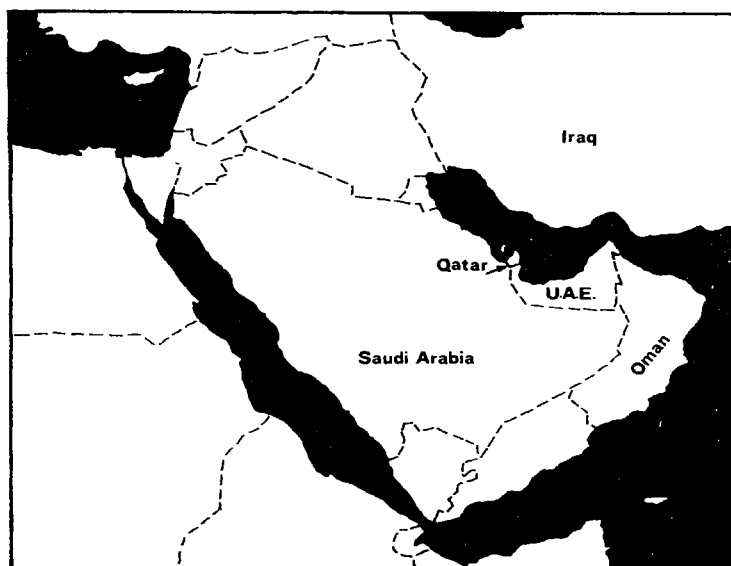
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INDEXED

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



UNITED ARAB EMIRATES



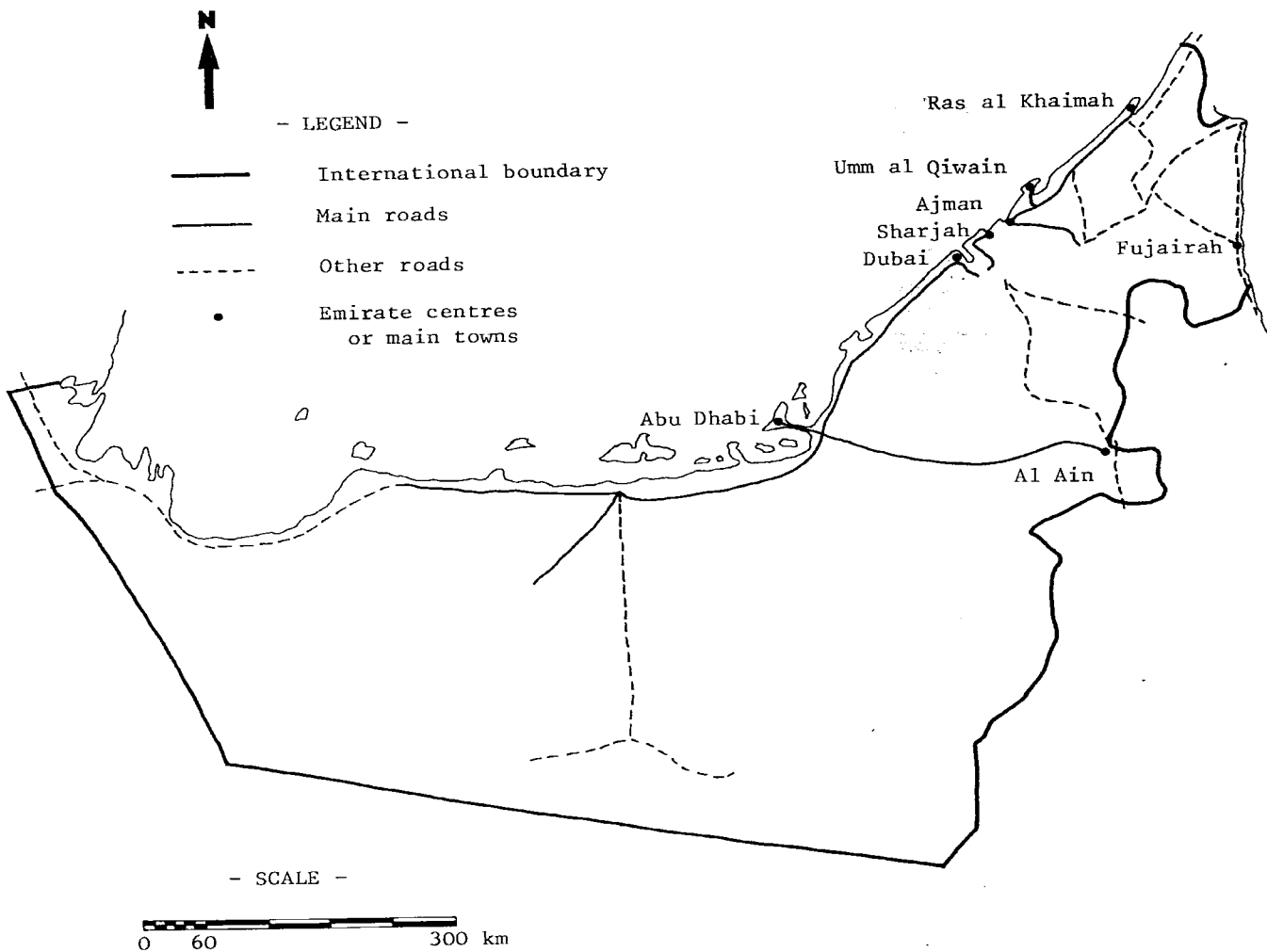
**MINISTRY OF HEALTH
U.A.E.**

WORLD HEALTH ORGANIZATION

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UNITED ARAB EMIRATES



1. BACKGROUND INFORMATION

1.1 Geography

December 2, 1971 marked the birth of a new and most promising nation in the Gulf area. What had previously been known as the Trucial States became the state of the United Arab Emirates (UAE), composed of seven separate emirates (Abu Dhabi, Dubai, Sharjah, Ras Al-Khaimah, Fujairah, Ajman and Umm Al-Qiwain).

The UAE represent a total area of approximately 77 700 square kilometres, extending from the base of Qatar to the Gulf of Oman, with a population of about 800 000. Geographically, the country is divided into four different zones: the mountains to the east, the rocky flats to the west, the salty flats along the coastline, followed by the inland desert and its numerous oases.

1.2 Climate

There is a semi-tropical climate, very hot and humid in the summer and mild in the winter, without any significant rainfall. Vegetational growth is confined mainly to the desert oases and some of the more fortunate areas irrigated by mountain water.

1.3 Population

The areas and the 1976 estimates of population of the various emirates are shown in Table 1. About one-tenth are nomads. Nearly all the inhabitants are Moslems. The official language is Arabic. The age and sex distribution of the estimated population at the end of 1977 is shown in Table 2.

TABLE 1: AREA OF UAE BY EMIRATE ^a

Emirate	%	Area (km ²)	Population (1976 estimate)
Abu Dhabi	86.7	67 340	235 662
Dubai	5.0	3 885	206 861
Sharjah	3.3	2 590	88 188
Ajman	0.3	259	21 566
Umm Al-Qiwain	1.0	777	16 789
Ras Al-Khaimah	2.2	1 684	57 282
Fujairah	1.5	1 165	26 498
Total	100.0	77 700	652 846

^a Islands not included.

TABLE 2: ESTIMATED POPULATION BY AGE AND SEX, 31 DECEMBER 1977

Age Groups	Male + Female	Female	Male	Percentage of Total
0 - 4	98 400	48 100	50 300	11.4
5 - 14	218 700	59 900	68 800	14.9
15 - 24	183 600	46 900	136 700	21.3
25 - 34	245 600	44 600	201 000	28.5
35 - 44	120 900	22 600	98 300	14.0
45 - 54	51 100	12 800	38 300	5.9
55+	83 800	13 400	20 300	4.0
Total	862 000	248 300	613 700	100.0

1.4 Government

The highest federal authority is the supreme Council of the Union, comprising the hereditary rulers of the seven emirates (the rulers of Abu Dhabi and Dubai have the power of veto). From its seven members the Council elects a President and a Vice-President. The President appoints a Union Council (federal) of Ministers, responsible to the supreme Council, to hold executive authority. The legislature is the Union National Council, a Consultative Assembly (comprising 40 members appointed for two years by the emirates), which considers laws proposed by the Council of Ministers. There are no political parties. In local affairs each ruler has absolute power over his subjects.

1.5 Education

In 1952 not a single school existed in any of the seven emirates which make up the UAE. It was not until 1953 that the first school opened in Sharjah, providing free education for 450 boys between the ages of six and seventeen. In 1971 formal education became compulsory throughout the federation and today only a handful of children between the ages of six and twelve years, mostly from remote areas, do not attend full time school.

Dramatic increases in the student population have been recorded since 1971-72, when 31 342 pupils were attending school, with an additional 1 520 in higher and vocational schools, bringing the total to 32 862. In the year 1976-77, there were some 90 000 students at various levels of education, girls accounting for just under half of the total.

Expansion in the number of students enrolled in state education has been matched by a rise in the number of schools. When the 1975-76 school year started there were 185 educational establishments in the federation (82 for males, 67 for females and 36 co-educational at kindergarten and primary levels). These 185 state schools are distributed as follows: Abu Dhabi - 77, Dubai - 31, Sharjah - 29, Ajman - 8, Umm Al-Qiwain - 6, Fujairah - 8 and Ras Al-Khaimah - 26.

In addition, the oil companies in Abu Dhabi operate apprentice training schools and there is also a vocational training institute. There are trade schools in Sharjah, Dubai and Ras Al-Khaimah. A university is at an advanced state of planning. Meanwhile, those wishing to pursue higher educational courses are provided with scholarships abroad. In 1975-76, a total of 1 236 UAE students (1 032 male, 204 female) were undertaking studies abroad.

The Government has also developed both schooling for those above normal school age and adult illiteracy classes for citizens unable to read or write. In 1975-76 there were a total of 103 centres for adult education, attended by 8 421 men and 2 746 women. Adult illiteracy classes total 488 at 120 centres, with 5 209 males and 1 583 females.

1.6 Communications

Fast tarmac roads have been constructed from Abu Dhabi to Dubai, Sharjah to Ras Al Khaimah and Sharjah to Dhaid. Dubai, the main port, is thus linked with other northern states and the interior. The port of Abu Dhabi is also being substantially developed. Dubai also has a new international airport and there are smaller international airports at Abu Dhabi and Sharjah. In 1976 there were 44 278 telephones, of which 16 190 were in Abu Dhabi. In Sharjah a new telephone company has been formed and the other northern states are now linked by telephone. The new cable and wireless station at Jebel Ali in the emirate of Dubai links the system with the international communication network.

2. HEALTH SERVICES

2.1 General

In establishing a comprehensive welfare state, the Ministry of Health has invested funds in a range of services including hospitals, clinics and preventive medicine. All medical

services are provided free of charge, and this includes treatment for patients referred to foreign hospitals for specialist attention not yet available in the federation.

The task facing the Health Ministry has been enormous. Poverty and associated malnutrition and disease were widespread when the union was formed in 1971, in addition to the problems created by ignorance and lack of hygiene. Planners had to approach all fronts simultaneously: hospitals were required in urban conurbations, smaller clinics were needed in remote areas; trained staff had to be recruited internationally, and health and hygiene education had to be launched on a wide scale.

To meet this challenge, investment by the Government has been high, with the combined current and development expenditures for 1976 totalling DH 300.6 million, 40 times the amount spent in 1972, or 7.2 per cent of the total annual budget.

During 1976 the Health Ministry announced a five-year health plan which will bring the highest prevailing international medical standards to all areas of the UAE.

2.2 Public Health Structure

(1) General

There are eight separate autonomous health and medical organizations (or groups) in the United Arab Emirates:

- UAE (Federal) Ministry of Health
- Department of Health and Medical Services of the local government of Dubai and other Emirates local government health institutions
- Health services of the municipalities
- Health and medical services of the UAE Defence Force
- Iranian Red Lion and Sun Health facilities in the UAE
- Private mission hospitals and services
- Oil company and other firms' medical services
- Private practitioners and specialists.

(2) The Ministry of Health

Formed in 1972, the Ministry has provided many hospitals, clinics and other health activities together with a large staff to develop and maintain them.

The distribution of medical facilities currently operational in the UAE are shown in Table 3, but the work of the Ministry is not accurately reflected as it does not include details of the preventive services which have been developed.

TABLE 3. DISTRIBUTION OF CLINICS BY MEDICAL AREAS ^a

Medical Area	Hospitals ^b	Hospital Beds	Clinics ^c
Abu Dhabi	3	872	22
Al Ain	4	494	7
Dubai	5	795	23
Sharjah	7	336	9
Ajman	2	85	6
Umm Al-Qiwain	1	28	4
Ras Al-Khaimah	3	172	14
Fujairah	4	125	3
Total	29	2 907	88

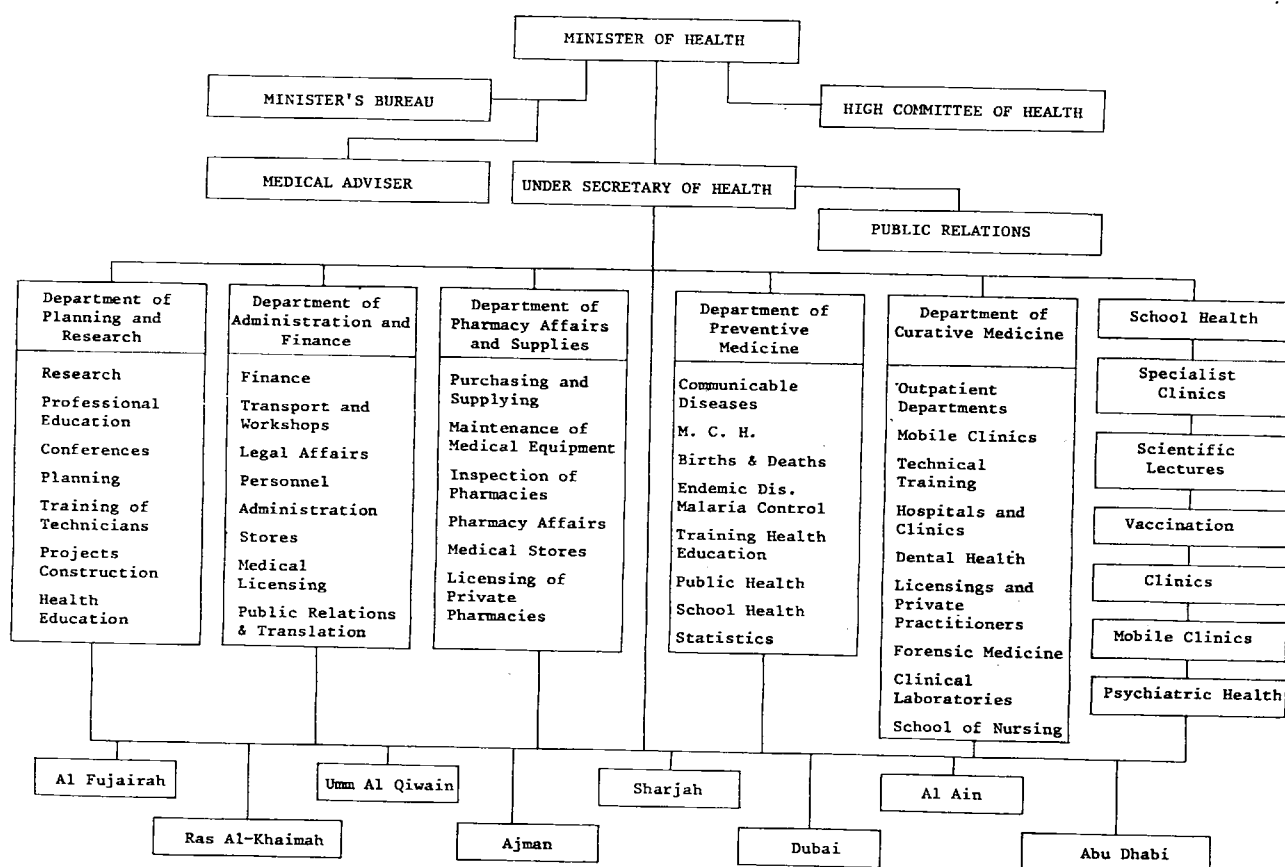
^a Not including hospitals and clinics under construction.

^b Including general, maternity and special hospitals.

^c Including M.C.H. and school health clinics.

The current organizational chart of the Ministry of Health (Figure 1) illustrates the services provided and also the lines of authority and responsibility.

FIG. 1: CURRENT ORGANIZATIONAL CHART OF THE MINISTRY OF HEALTH



The Headquarters of the Ministry is in Abu Dhabi, but in each Emirate there is a Ministry of Health Officer - a Director with an office and staff. The Federal Ministry of Health is also responsible for organizing the national tuberculosis and malaria campaigns, the headquarters of which are situated in Sharjah.

The school health and dental services are well developed. The usual pattern for the school health service is for one doctor to be responsible for the care of three schools, referring cases from the schools to special clinics when further care or investigations are required. In each school there is a nurse and a social worker who assist the doctor in his duties (Table 4).

TABLE 4. SCHOOL HEALTH CLINICS, STAFF AND ATTENDANCES, 1976

Emirate	School Clinics	Central Clinics	Physician	Nursing Staff	Total Attendance
Abu Dhabi	69	2	45	79	121 635
Northern Emirates	67	6	43	81	89 825
Total	136	8	88	160	211 460

The Ministry of Health School Health Service does not cover private schools. It is responsible for both preventive and curative services and medical care of Ministry of Education staff, teachers and their dependents.

The growth of motor transport in the UAE has also added to the Ministry's workload, and emergency facilities are an integral part of the services now provided. Helipads have been built to receive helicopter ambulances carrying either critical cases from highway accidents or other casualties from remote areas.

2.3 Health Manpower (Table 5)

Of course, facilities are meaningless without qualified doctors, specialists and nurses to man them. In this respect the Ministry has initiated an international recruitment campaign which has been generally successful in attracting sufficient medical staff. The future will see an increasing number of UAE nationals employed in the health service. In the 1975-76 educational year, 97 UAE students were taking medical courses, twenty-six of them women. In addition, six were studying dentistry, and fifteen pharmacy.

TABLE 5. HEALTH MINISTRY PERSONNEL BY MEDICAL AREA, DECEMBER 1977

Medical Area	Physicians and Pharmacists	Technicians Nursing X-Ray Laboratory	Labourers	Admin. Personnel and Clerks	Auxiliary Personnel	Total
Abu Dhabi and Al Ain	350	1 224	235	513	770	3 092
Dubai	147	319	81	155	274	976
Sharjah	89	226	63	105	237	720
Ajman	34	96	21	34	97	282
Umm Al-Qiwain	24	50	50	79	91	294
Ras Al-Khaimah	87	163	94	48	194	586
Fujairah	32	61	27	30	125	275
Total	763	2 139	371	964	1 788	6 225

- Technicians include: nursing, X-ray, laboratory, pharmacy, dental and other personnel.
- Administrative personnel include: clerks, accountants, typists, secretaries, store-keepers, etc.
- Labourers include: mechanics, carpenters, electricians, plumbers, cooks, barbers, etc.
- Auxiliary personnel include: drivers, cleaners, control staff, messengers and guards.

2.4 Communicable Diseases Control

There is a Public Health doctor in each of the eight medical districts (Abu Dhabi Emirate has two medical districts, Abu Dhabi and Al Ain; the other Emirates have one each), with an office and staff. He is responsible for all preventive medicine activities, including communicable diseases control, in his area.

Notification of all communicable diseases is required from medical installations and private practitioners on a special weekly report form. Both total numbers as well as all particulars of individual cases are required (see Annexes 1 and 2). As an example, the most commonly registered infectious diseases, including chickenpox and measles, in Al Ain area during 1972-76 are shown in Table 6.

It may be noted from the reporting forms shown in the annexes that smallpox, measles and chickenpox are notifiable diseases.

TABLE 6. THE MOST COMMON REGISTERED INFECTIOUS DISEASES (AL AIN AREA) 1972-1976

Disease	1972	1973	1974	1975	1976
Malaria ^a	1 305	856	348	267	265
Measles ^a	378	101	555	248	333
Chickenpox ^b	149	249	471	454	184
Mumps	53	340	74	51	86
Pulmonary TB	295	204	200	243	295
Venereal Diseases	299	207	98	207	190

^a Apparent increased incidence every second year.

^b Most cases occur in the months January - April.

The Public Health Department in each medical district also runs a central vaccination centre. Figures for Abu Dhabi and Al Ain reflect the efforts which have been taken in providing vaccinations and inoculations during 1973-75. Recorded smallpox vaccinations show 22 800 in 1973, 35 486 in 1974 and 45 901 in 1975.

3. SMALLPOX INCIDENCE

3.1 Trends

The United Arab Emirates have not experienced endemic smallpox. The number of cases notified during the last 20 years is shown in Table 7. Though no particulars are available of the 1962 outbreak, it appears that all the four subsequent outbreaks over the years have resulted from importation of the infection from India or Pakistan and further local spread took place because of late diagnosis as well as cross infection in hospital.

TABLE 7. REPORTED SMALLPOX CASES BY YEAR 1957-1977

Year	Number of Cases	Location
1957	0	
1958	0	
1959	0	
1960	0	
1961	0	
1962	17	No particulars available
1963	0	
1964	0	
1965	0	
1966	0	
1967	10	Dubai and Sharjah
1968	2	No particulars available
1969	0	
1970	18	Dubai
1971	30	Dubai, Al Ain and Abu Dhabi
1972	0	
1973	0	
1974	0	
1975	0	
1976	0	
1977	0	

3.2 Outbreak of 1967

An outbreak of ten cases, including two deaths, occurred in Dubai and Sharjah during March 1967. Two separate sources of infection were identified, both imported: one from India and the other from Pakistan. The outbreak was promptly contained by proper isolation of the cases and mass vaccination of the population. Altogether, 112 000 vaccinations were performed. Accounts of this outbreak, extracted from the local hospital records and the reports of the medical authorities at that time, are attached as Annexes 3 and 4.

3.3 Outbreak of 1968

No record of this outbreak is available in any of the Emirates. Verbal statements of medical staff who were present at that time in the UAE indicate that the two cases were both imported and that there was no local spread.

3.4 The Last Outbreak in the UAE - 1970/71

This outbreak started in Dubai in December 1970, the infection having apparently been introduced by a Pakistani immigrant. Altogether, 19 cases including 3 deaths occurred in a limited area. Strict isolation measures and energetic mass vaccination of the community brought the outbreak to an end in January 1971 (see Annexes 3 and 5).

Itinerant nomads seem to have spread the infection to Al Ain from where, because of a hospital transfer, transmission took place in Abu Dhabi. Investigations revealed that cases had been occurring in the villages around Al Ain since February 1971, but due to initial mis-diagnosis the outbreak was not discovered by the medical authorities until April 1971, by which time a number of cases had occurred. Once the outbreak was recognized, however, proper and speedy containment measures were taken and it was halted by July 1971. Only the 29 cases which were admitted to Al Ain and Abu Dhabi hospitals were officially reported, of which particulars of 28 cases are available (Annex 6). Of the hospitalized cases, 11 expired.

4. SMALLPOX VACCINATION ACTIVITY

Smallpox vaccination is offered at all the hospitals, health centres and clinics. In addition, in October every year the school health doctors give all the school children primary or re-vaccination as indicated.

There is also a central vaccination centre in each of the medical directorates manned by the Public Health staff. Also 30 mobile vaccination teams are available for any emergency mass vaccination campaign.

After the 1971 outbreak, a survey carried out in Abu Dhabi and Al Ain showed vaccination coverage of 95% of the population.

Another sample survey carried out in Dubai showed that amongst adults and school children the vaccination coverage was 85 to 90%, whereas the vaccination of pre-school children showed only 60% coverage.

The vaccinations given during the period 1968-1977 in two of the medical districts and during the period January to June 1978 in 6 out of the 8 medical districts are shown in Tables 8 and 9 respectively.

TABLE 8. SMALLPOX VACCINATIONS GIVEN, ABU DHABI AND AL AIN
MEDICAL DISTRICTS, 1968-1977 ^a ^b

Year	Abu Dhabi	Al Ain
1968	17 200	4 633
1969	13 000	1 129
1970	24 000	2 640
1971	15 918	35 017 ^c
1972	31 250	23 521
1973	15 483	5 950
1974	28 465	7 021
1975	29 840	16 404
1976	41 874	10 851
1977	83 137	10 821

^a Figures from the other Emirates were not complete, so not included.

^b 25-33% of these vaccinations were performed on females.

^c Of these, 27 000 vaccinations were performed during a mass campaign to contain the outbreak that occurred during February - June 1971.

TABLE 9. SMALLPOX VACCINATIONS GIVEN, JANUARY - JUNE 1978 ^a

Sl. No.	Medical Districts	January	February	March	April	May	June	Total
1	Abu Dhabi	3 851	3 550	5 117	5 419	5 900	5 943	29 780
2	Al Ain	681	941	1 229	1 259	1 011	1 716	6 837
3	Ajman	365	90	242	1 113	307	671	2 808
4	Ras Al-Khaimah	376	403	540	457	648	608	3 032
5	Sharjah	1 106	1 022	1 063	1 094	1 469	1 888	7 642
6	Umm Al-Qiwain	145	118	150	158	194	279	1 044

^a Figures for Dubai and Fujairah Medical Districts were not available.

5. SPECIAL OPERATIONS CARRIED OUT FOR CERTIFICATION OF SMALLPOX ERADICATION

5.1 General

According to the plan of action designed by WHO and the Secretariat of Health for the Arab Countries of the Gulf, in order to convince the Global Commission that the country has eradicated smallpox, the following activities were carried out by the Ministry of Health during the period January to July 1978:

- (1) Individual notification of all chickenpox cases with epidemiological details.
- (2) Collection of specimens for laboratory examination from severe cases of chickenpox, and those which are unvaccinated against smallpox, or with lesions on palms and soles, or associated with death. This is to ensure that no case of smallpox has been missed because of mis-diagnosis.
- (3) Facial smallpox scar survey of children of 0-10 years of age in different parts of the country.
- (d) Epidemiological investigation of all suspect or rumoured smallpox cases and collection of laboratory specimens from such cases.

5.2 Chickenpox Surveillance

Chickenpox is a notifiable disease in the UAE. From January to July this year, to ensure thorough examination of all chickenpox cases, a special form was completed for each and every case, giving details of address, age, sex and vaccination status. Altogether, 1 871 chickenpox cases were examined in the entire federation. Breakdown by Emirates as well as an analysis of these cases by various categories are shown in Tables 10, 11 and 12.

TABLE 10. NOTIFIED CHICKENPOX CASES BY MONTH AND BY MEDICAL DISTRICTS
JANUARY - JULY 1978

District	January	February	March	April	May	June	July	Total
Abu Dhabi	68	33	55	106	111	57	36	466
Al Ain	31	61	79	36	20	9	6	242
Sharjah	13	12	27	48	65	13	3	181
Ajman	19	37	83	42	29	6	8	224
Umm Al-Qiwain	16	42	63	21	10	-	-	152
Ras Al-Khaimah	16	16	20	18	12	1	3	86
Fujairah	41	19	13	48	10	4	9	144
Dubai (Autonomous)	-	-	4	43	80	34	15	176
Dubai (Federal)	27	47	63	51	12	-	-	200
Total	231	267	407	413	349	124	80	1 871

Note: These figures pertain only to the School Health Clinics. Figures from the other Medical Units are not available.

TABLE 12. AGE, SEX AND SMALLPOX VACCINATION STATUS OF CHICKENPOX
CASES NOTIFIED FROM THROUGHOUT UAE ^a

Age Group	Male			Female			Total	% of Grand Total
	Vaccinated	Un-vaccinated	Not recorded	Vaccinated	Un-vaccinated	Not recorded		
1	9	9	4	9	16	1	48	2.9
1 - 4	143	41	20	116	41	17	378	22.8
5 - 14	474	82	39	382	42	20	1 039	62.5
15 - 24	41	10	7	10	3	2	73	4.4
25 - 34	36	5	10	2	5	6	64	3.9
35 - 44	13	2	3	0	1	0	19	1.1
45+	6	1	1	1	1	1	11	0.7
Not recorded	0	0	15	1	0	13	29	1.7
Total	722	150	99	521	109	60	1 661 Grand Total	100.0
% of Grand Total	43.4	9.0	6.0	31.4	6.6	3.6	100.0	

^a Includes all cases for which at least one of the details was recorded. Does not include 210 cases for which no details were recorded.

TABLE 11. AGE, SEX AND SMALLPOX VACCINATION STATUS OF NOTIFIED CHICKENPOX CASES ^a, BY MEDICAL DISTRICT, JANUARY - JULY 1978

Medical District	Age Group	Male		Female		Total
		Vaccinated	Un-vaccinated	Vaccinated	Un-vaccinated	
Abu Dhabi	0 - 4	57	8	43	6	114
	5 - 14	151	5	94	3	253
	15+	50	0	7	0	57
	All ages	258	13	144	9	424
Al Ain	0 - 4	17	5	12	8	42
	5 - 14	52	45	36	17	150
	15+	8	11	1	3	23
	All ages	77	61	49	28	215
Sharjah	0 - 4	31	4	30	10	75
	5 - 14	39	2	32	1	74
	15+	9	1	1	1	12
	All ages	79	7	64	12	161
Ajman	0 - 4	6	17	3	8	34
	5 - 14	25	4	28	4	61
	15+	1	0	0	1	2
	All ages	32	21	31	13	97
Umm Al-Qiwain	0 - 4	6	2	8	1	17
	5 - 14	63	0	66	0	129
	15+	3	0	2	0	5
	All ages	72	2	76	1	151
Ras Al-Khaimah	0 - 4	0	0	0	0	0
	5 - 14	14	0	19	2	35
	15+	1	0	0	0	1
	All ages	15	0	19	2	36
Fujairah	0 - 4	20	2	10	12	44
	5 - 14	47	9	31	7	94
	15+	1	2	1	0	2
	All ages	68	13	42	19	140
Dubai (autonomous units)	0 - 4	15	11	19	12	57
	5 - 14	36	6	34	7	83
	15+	22	4	1	5	32
	All ages	73	21	54	24	172
Dubai (federal units)	0 - 4	0	0	0	0	0
	5 - 14	47	11	42	1	101
	15+	1	0	0	0	1
	All ages	48	11	42	1	102

^a Only includes cases for which all 3 details were recorded (see Table 12).

5.3 Laboratory Examination of Specimens from Chickenpox Cases of Specified Categories

Between 1 January and 31 July 1978, a total of 51 specimens were collected from chickenpox cases from the eight Medical Districts and sent to WHO for laboratory examination. A line listing of these cases with the results of the examination are shown in Annex 7. All were negative for smallpox.

An analysis of these cases by place of origin and age and sex are shown in Tables 13 and 14.

TABLE 13. DISTRIBUTION OF LABORATORY SPECIMENS BY MEDICAL DISTRICTS
JANUARY - JULY 1978

Abu Dhabi	-	14
Al Ain	-	12
Sharjah	-	10
Ajman	-	6
Umm Al-Qiwain	-	1
Ras Al-Khaimah	-	3
Fujairah	-	2
Dubai (Autonomous)	-	3
Dubai (Federal)		Nil
Total		51

TABLE 14. ANALYSIS OF CHICKENPOX CASES FROM WHICH SPECIMENS WERE COLLECTED
BY AGE AND SEX, JANUARY - JULY 1978

Age Group in Years	Male	Female	Total
1	1	1	2
1 - 4	-	1	1
5 - 14	6	3	9
15+	37	2	39
Total	44	7	51

5.4 Facial Smallpox Pockmark Survey

The School Health Services in all the districts took part in the survey. 42 040 children in the 6-10 year age group were examined. In addition, some districts kept a record of the children examined in the clinics for facial pockmarks, making a total of 43 954.

During this process, four children were found to have pockmarks. Investigations revealed that all but one had smallpox 6-7 years ago outside UAE: one in India, one in Bangladesh and another in Pakistan. The locally occurring case suffered smallpox in the known outbreak in Al Ain in 1971 (Table 15).

TABLE 15. NUMBER OF CHILDREN SURVEYED FOR FACIAL POCKMARKS
BY DISTRICTS, JANUARY - JULY 1978

Name of District	No. of Children (6-10 years of age) seen in the schools	No. of Children (0-10 years of age) seen in the Out-Patient Clinics ^a	No. found with Facial Pockmarks	Results of the Investigation
Abu Dhabi	6 832	-	1	12 year old girl had smallpox while in India, 6½ years ago.
Al Ain	6 161	-	1	9 year old boy had smallpox at 2 years of age and was a part of the outbreak in 1971.
Sharjah	14 912	32 573	0	
Ajman	1 502	-	0	
Umm Al-Qiwain	708	5 290	0	
Ras Al-Khaimah	3 309	5 341	0	
Fujairah	2 668	750	1	10 year old boy had smallpox while in Bangladesh 7 years ago.
Dubai (Autonomous)	5 948	-	1	10 year old girl had smallpox while in Pakistan 7 years ago.
Total	42 040	43 954	4	
GRAND TOTAL	85 994			

^a Records kept in only four districts.

5.5 Investigation of Suspect Smallpox Cases

The Ministry has been vigilant with regard to the occurrence of smallpox. Whenever any case with fever and rash was suspected to be smallpox, specimens were taken for laboratory examination. Since the outbreak of 1970/71, which, of course, was confirmed to be smallpox, six specimens from Abu Dhabi and two from Dubai were sent to different laboratories for testing. All were smallpox negative. (Table 16).

TABLE 16. NUMBER OF LABORATORY SPECIMENS SENT FROM
SUSPECT SMALLPOX CASES SINCE 1971

1. Abu Dhabi

<u>Year</u>	<u>No. Tested</u>	<u>Variola Virus</u>	<u>Vaccinia Virus</u>	<u>Herpes Virus</u>	<u>Negative</u>	<u>Name of Laboratory</u>
1971	14	11	-	1	2	P.H. Laboratory Collindale
1972	4	-	-	3	1	"
1973	1	-	-	1	-	"
1978	1	-	-	1	-	"

2. Dubai

1971	9	7	-	-	2	Moscow Laboratory
1972	1	-	-	-	1	"
1978	1	-	-	-	1	"

6. CONCLUSION

The last smallpox outbreak in the country was in 1970/71. Since then any suspect case of smallpox has been thoroughly examined and the disease ruled out by laboratory testing of specimens.

All cases of fever and rash diagnosed as smallpox, measles or chickenpox have been notifiable diseases all along.

The country is adequately covered by hospitals, clinics and dispensaries, to which every section of the population has free access. A good public health service exists. The recent chickenpox surveillance did not reveal any suspect smallpox case, and the facial scar survey showed no evidence of any infection in the country after 1971. Since then, the country can be said to have been free of smallpox.

NOTIFIABLE DISEASES SINGLE CASE REPORTING FORM

U. A. E.

Ministry of Health
Preventive Medicine Department

الامارات العربية المتحدة

وزارة الصحة
ادارة الطب الوقائي

بلاغ الامراض المعدية وحالات التسمم الغذائي

Notification of infections Diseases or Food Poisoning

To the Medical officer of Health

السيد / مسؤول الطب الوقائي

I here by certify and declare that in my opinion
that person named below is suffering from :

المريض المذكور ادناه تم تشخيصه كالآتي

Name	الاسم	Age	السن	Disease	المرض	Date of onset	تاريخ ابداء المرض	if in hospital	تاريخ دخول المستشفى ان وجد	date of admission
Nationality	الجنسية	Sex	النوع					Adress	العنوان	

Diseases to be Notified

الامراض المعدية التي يجب التبليغ عنها

Small pox	الجدري	Measles	الحصبة	Pulmonary T.B.	الدرن الرئوي	Rabies	داء الكلب
Cholera	الكوليرا	Diphtheria	الحنات	Gonorrhoea	السلان	Influenza	الانفلونزا
Yellow fever	الحمى الصفراء	Scarlet fever	الحمة القرمزية	Syphilis	الزهرى	Leprosy	الجذام
Plague	الطاعون	Chicken Pox	الجدري	Other V. D.	امراض تناسلية اخرى	Acute Encephalitis	التهاب المخ
Typhus	التيفوس	Typhoid	التيفويد	Infective Hepatitis	التهاب كبدي وبائي	C. S. Mening. tis	التهاب السحائي وبائي
Louse born relapsing fever	الحمى الراجعة	Para Typhoid	باراتيفويد	Serum Hepatitis	التهاب كبدي		
Poliomyelitis	شلل الاطفال	Amoebic Dysentery	الدوسنتاريا الاميدية	Anthrax	الجمرة الخبيثة		توقيع الطبيب
Mumps	الكاف	Bacillary Dysentery	الدوسنتاريا الباسلية	Malaria	الملاريا		
				Tetanus	الكزاز		

NOTIFIABLE DISEASES WEEKLY SUMMARY FORM

..... منطقة

..... مستشفى / ميادة

دولة العراق - الجمهورية المتحدة
 وزارة الصحة
 ادارة الطب الوقائي

كشف بالامراض المعدية المبلغ عنها في الفترة

من الى

..... الاسبوع رقم

DISEASE	المرض	No. عدد الحالات	DISEASE	المرض	No. عدد الحالات
Small Pox	الجدري		Whooping Cough	السعال الديكي	
Cholera	الكوليرا		Infective Hepatitis	التهاب كبدي وبائي	
Yellow Fever	الحمى الصفراء		Serum Hepatitis	التهاب كبدي	
Plague	الطاعون		Anthrax	الجمرة الخبيثة	
Louse-born Typhus	التيفوس		Malaria	الملاريا	
Louse-born	الحمى الراجعة		Tetanus	الكزاز	
Relapsing Fever			Rabies	دام الكلب	
Poliomyelitis	شلل الاطفال		Influenza	الانفلونزا	
Mumps	النكاف		Leprosy	الجذام	
Measles	الحصبة		Acute Encephalitis	التهاب سحائي	
Diphtheria	الخناق		C. S. Meningitis		
Scarlet Fever	الحمى القرمزية		Gonorrhoea	السيلان	
Chicken Pox	الجدري		Syphilis	الزهمي	
Typhoid	التيفويد		Other V. D.	امراض تناسلية اخرى	
Para Typhoid	باراتيفويد				
Amoebic Dysentery	الدورسنتاريا الاميبية				
Bacillary Dysentery	الدورسنتاريا الباسلية				
Pulmonary T. B.	الدرن الرئوي				

MEDICAL OFFICER :

توقيع الطبيب

GOVERNMENT OF DUBAI
DEPARTMENT OF HEALTH & MEDICAL SERVICES

مستشفى المكنوم
AL-MAKTUM HOSPITAL

Telephone : 21211 (4 lines)

P. O. Box No. 1899
Dubai - United Arab Emirates

AMH/WHO/1/78

Date July 11, 1978

SMALLPOX EPIDEMICS IN DUBAI, 1967 AND 1971

Extracts taken from Al Maktum Hospital records

Two cases of proved smallpox were admitted to the Al Maktum Hospital, Dubai, on March 7th, 1967. Both these patients were illegal immigrants who left Bombay by launch on February 10th, 1967 and disembarked at Ras Al Khaimah on the 21st of February 1967. They travelled by lorry to Sharjah and Dubai. These two patients were isolated in the Isolation Hospital and steps were taken to institute a mass vaccination campaign. The Al Maktum Hospital staff nursed these patients. S.O.S. cables were despatched to Doha, Kuwait, Bahrain, London, Geneva and Muscat requesting vaccine. The British Political Agent in Dubai, Mr David Roberts, (at present Her Majesty's Ambassador in Abu Dhabi) requested the World Health Organization in Geneva to send an Expert as there were four confirmed cases and more suspects by 13th March 1967. Dr Henderson of the W.H.O. in Geneva was in contact and Dr Vorst who came out from Geneva informed him that four confirmed cases existed but no new ones up to March 16, 1967. 7,000 doses were sent to Abu Dhabi. By April 2nd, 1967, 112,000 doses of vaccination were used throughout the Trucial States. 71,150 doses had been used in Dubai.

The Political Agent in Dubai cabled the World Health Organization thanking them for their assistance.

On 18th March 1967, there was one death due to smallpox and one suspected case from Sharjah. Mass vaccination in Sharjah commenced on 18th March. By the time it was March 20th, 1967, there was only one new case from the same group. Dr Vorst reported to the W.H.O. office in Geneva that vaccination was reaching full coverage and that there were no problems for health staff. He returned to Geneva on 22nd March 1967.

Dr Alan Fawdry of the Al Maktum Hospital, Dubai, sent blood specimens on April 1st, 1967, on instructions from Dr Vorst to Dr T. Guthe of Communicable Diseases (V.D.T.) department of the W.H.O. in Geneva. A report on blood, pus and crusts was also given by the R.A.M.C. College, Millbank, London, as positive for smallpox on laboratory examinations.

A copy of the clinical report on smallpox outbreak in Dubai Municipality (taken out of our old file is enclosed for information). Also enclosed is a photostat of a smallpox report by Mr H. N. Camplin, Administrative Officer. The last isolated case in Dubai was on 25th March, 1967. The Trucial Oman Scouts in Sharjah loaned tents for accommodating the smallpox cases. These were destroyed on May 18th, 1967. The Health Adviser of the Trucial States Council, Dr Asim Al Jamali, informed Mr D. A. Roberts, the Political Agent on 3rd July 1967, that Dubai was free of smallpox.

On 26th December 1970, the Public Health Officer of Dubai Municipality, Dr W. Thom, reported that 10 cases of smallpox were isolated in Kartoon village in Dubai. All families and neighbours of the patients were quarantined and the whole village was vaccinated within 36 hours. On 31st December 1970, three suspects in quarantine were confirmed as cases of smallpox.

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- 2 -

Date

On 2nd January 1971, two further cases were confirmed in the quarantine area. On 3rd January 1971, one case confirmed from quarantine, one suspect boy from Kartoon village admitted to quarantine, one confluent case 9 days ill were discovered in Manama village in Dubai. As of 3rd January 1971, there were 17 cases plus one suspect. One death occurred of a young baby on 2nd January, 1971. The contacts became more widespread and the children of the Dubai Pakistan School were contacts in respect of the last suspect. The most recent confluent case was known to have been down the bazaar. On the afternoon of 3rd January 1971, a severe case, 9 days old was discovered in Manama village in Dubai.

Dr Taba of the World Health Organization office in Alexandria was informed of these cases on 5th January 1971. Specimens of two cases of suspected chickenpox were sent to W.H.O., Geneva on 5th January 1971, to exclude the possibility of their having a typical smallpox. The W.H.O. office in Alexandria sent 35,000 doses of smallpox vaccine to the Al Maktum Hospital in Dubai.

On 23rd January 1971, Dr Taba of the World Health Organization in Alexandria was informed that amongst the cases of smallpox, a child aged 1½ year had multiple effusions in the joints. It was believed to be a case of Osteomyelitis variolosa and advice was sought about the duration of infectivity and the period of isolation. It was also reported that there were no further cases outside the quarantine camp and it appeared that the epidemic had been contained.

Prompt action by the Department of Health and Medical Services of the Government of Dubai in co-operation with the Municipality and the Police, rapidly brought the situation under control. A vaccination campaign was conducted throughout the surrounding community and in all 3,000 persons were vaccinated. All the cases occurred within an area of some 500 metres square. The Department of Health advised that it was most unlikely that the outbreak would spread because the general level of vaccination of the people in Dubai was very good due to the large numbers of vaccinations given in previous campaigns in 1967 and 1970.

A strict control was kept at the airport for passengers arriving Dubai with valid Health Certificates of Vaccination against Smallpox and Cholera.

* * *
'True extracts'

c.c. Dr Pierre P. M. Clement
Director-General of Health &
Medical Services, Govt. of Dubai

U. Acharya
Dr. U. ACHARYA.
M.B.B.S., M.R.C.P. (U.K.), D.C.H., DIP. VEN.
Medical Superintendent,
AL MAKTUM HOSPITAL,
P. O. BOX 1899,
DUBAI (U. A. E.)

1967 SMALLPOX EPIDEMIC REPORT - DUBAI ^a

On March 7, a South Indian from Kerala State was admitted to the Al Maktum Hospital with high fever but no other abnormal signs. The same evening it was noted that acne like spots in his face had increased and that he had a faint macular rash on his limbs. He had no vaccination marks and he said he had been in Dubai for a month. The possibility of Smallpox was considered remote but the patient was isolated as precautionary measures.

Next morning the rash was more profuse and fever less. Smallpox was definitely considered and all the Hospital Staff and patients in Hospital were vaccinated.

On March 10, Smallpox seemed probable in spite of non characteristic signs and the story of a month's residence in Dubai. The Political Agent and the Municipal Health Department were informed. Confirmation was obtained later the same day by the presentation of another case from the same group of immigrants who apparently arrived on the Trucial Coast about the 21st of February. Preventive measures were immediately instigated in the town.

On March 11 and 13 respectively, two children of Pakistani origin were admitted from the same house and same family in Sharjah with indubitable smallpox. They were unconnected with the Kerala immigrants and arrived on the Trucial Coast on or about the 28th of February.

On March 18, a third Pakistani child presented at the Hospital in a moribund condition died en route to the Isolation Hospital. The family had come on the same boat as the first two Pakistani children.

On March 25, a Pakistani was admitted with mild Smallpox having been previously vaccinated who had been ill in his home for 12 days prior to being brought to the Hospital. This patient arrived in the Trucial States on the same launch as the other Pakistanis.

SUMMARY OF CASES 1-6

	1	2	3	4	5	6
Date of admission	7.3.67	10.3.67	11.3.67	13.3.67	18.3.67	25.3.67
Date diagnosis confirmed	10.3.67	10.3.67	12.3.67	13.3.67	18.3.67	25.3.67
Vaccinated previously	No	Yes	Yes	No	No	Yes
Type of disease	Confluent	Moderate	Mild	Confluent	Malignant	Mild
Death	-	-	-	-	Yes	-
Nationality	S. India	S. India	Pakistan	Pakistan	Pakistan	Pakistan
Age	20	24	5	2	3	18
Sex	M	M	M	F	M	M

Mass vaccination was started on the 11th of March in Dubai and in the other Sheikhdoms on the 13th of March. 112,000 doses of vaccination have been used throughout the Trucial States up to date. 71,150 doses have been used in Dubai.

^a Copy of official report from Al-Maktum Hospital, Dubai, by H. N. Camplin, Administrative Officer, 2 April 1967.

1970 OUTBREAK NOTIFICATION TELEGRAM FROM DUBAI

MENASSA DEPARTMENT OF HEALTH

DUBAI 16.1.71

ABUDHABI

SMALLPOX TOTAL NINETEEN CASES THREE DEATHS UPTO JANUARY FOURTEENTH STOP ALL CASES
IN INITIAL ROUNDUP OR IN QUARANTINE EXCEPT ONE WHO HAS APPARENTLY NOT SPREAD IT
STOP IF NO CASES UNTIL NINETEENTH JANUARY WILL DECLARE AREA FREE STOP HONEYMAN

MEDMAK

LINE LISTING OF SMALLPOX CASES - 1971

<u>AL-AIN</u>								
S.No.	Name	Sex	Age	Nationality	Admission Date	Date of Fever	Date of Eruption	Date of Death
1	Gamasha Mubarek	F	55	Abu-Dhabian	21.4.71	11.4.71	15.4.71	-
2	Rahma Moh'd Salam	M	20	"	25.4.71	19.4.71	22.4.71	30.4.71
3	Suhail Salem Suhail	M	10m	"	7.5.71	3.5.71	5.5.71	11.5.71
4	Mooza Bint Saeed	F	60	"	8.5.71	2.5.71	7.5.71	-
5	Yousuf Ali Yousuf	M	25	Omani	5.5.71	1.5.71	19.5.71	-
6	Issa Hussain	M	20	Irani	9.5.71	4.5.71	8.5.71	-
7	Hassan Safar Hassan	M	18	"	10.5.71	4.5.71	8.5.71	-
8	Ahmed Khuwaidan	M	30	Abu-Dhabian	5.5.71	3.5.71	7.5.71	-
9	Murad Abdulla Moh'd	M	25	Pakistani	11.5.71	6.5.71	9.5.71	-
10	Ismana Bint Khuwaida	F	45	Abu-Dhabian	14.5.71	7.5.71	11.5.71	unknown
11	Hamad Mahammed	M	10	"	13.5.71	24.5.71	26.5.71	-
12	Nasib Said Naji	M	25	"	15.5.71	2.5.71	4.5.71	-
13	Salim Hamud Said	M	20	"	16.5.71	28.5.71	28.5.71	-
14	Ali Moh'd Khamis	M	25	"	17.5.71	9.5.71	14.5.71	-
15	Jaber Amer Hamad	M	2	"	20.5.71	17.5.71	21.5.71	-
16	Moh'd Amer Hamad	M	3	"	21.5.71	18.5.71	21.5.71	-
17	Tarish Salim	M	60	"	30.5.71	23.5.71	29.5.71	3.6.71
18	Khazeena Moh'd	F	13	"	1.6.71	27.5.71	29.5.71	-
19	Sulaiman Azad Moh'd	M	20	Omani	2.6.71	24.5.71	31.5.71	-
20	Suhair Moh'd Al-Amri	M	2	Abu-Dhabian	9.5.71	-	-	11.5.71
21	Hamad Khuwaidan	M	18	"	10.5.71	-	-	-
22	Samana Moh'd Al Amier	F	25	"	15.5.71	-	-	16.5.71
<u>ABU DHABI</u>								
1	Salama Bint Saeed	F	40	-	11.5.71	-	-	11.5.71
2	Salem Mubarek Rashed	M	4	Abu-Dhabian	6.5.71	-	-	11.5.71
3	Shama Mubarek Rashed	F	8	"	8.5.71	-	-	12.5.71
4	Afra Mubarik Rashed	F	5	"	14.5.71	-	-	22.5.71
5	Salema Bint Mubarek	F	10	"	8.5.71	-	-	17.5.71
6	Mubarik Rashid Al Rahmi	M	55	"	14.5.71	-	-	-

DETAILS OF SPECIMENS LABORATORY TESTED BY WHO COLLABORATING CENTRE 1978 ^a

SERIAL NO.	PATIENT			DATE RECEIVED	RESULTS	
	NAME OR CASE NO.	AGE	SEX		HERPES VARICELLA (by EM)	VARIOLA VIRUS
UAE 1	Moham Naier	30	M	20.7.78	positive	negative
UAE 2	K.C. Idicheryan	28	M	"	negative	"
UAE 3	Qopal Dermasilam	35	M	"	"	"
UAE 4	S. Thankappan	54	M	"	"	"
UAE 5	Verkey Cheriyan	22	M	"	"	"
UAE 6	Soad Kamal Nashed	10	F	"	"	"
UAE 7	Khamis Insllam	22	M	"	"	"
UAE 8	Pangemen Sala	27		"	positive	"
UAE 9	Abraham Varghese	27		"	"	"
UAE 10	Mozur Alaieed	18 m.	F	"	negative	"
UAE 11	Mohd Haneefa-Abdul Haseem	22	M	"	positive	"
UAE 12	M.Thulasid Haran Nair	30	M	"	negative	"
UAE 13	Nawababbas Karam Shah	25	M	"	positive	"
UAE 14	Abel Hamid Abdel Kahim Bawaj	16	M	"	"	"
UAE 15	Mohd Kunchi Sumsyden	34	M	"	"	"
UAE 16	Varghese Varghese	30	?	20.7.78	"	"
UAE 17	Mohd Saweed Mohammed	25	M	"	negative	"
UAE 18	Bahu Thomas	27	M	"	positive	"
UAE 19	Atta Al Danek	8	M	"	"	"
UAE 20	? (address: Fakkan)	26	M	"	"	"
UAE 21	N. Suliman	23	M	"	"	"
UAE 22	Shyam Mohan	?	M	"	"	"
UAE 23	Widad Aly Sultan	6	F	"	"	"
UAE 24	K. Ceouge	45	M	"	negative	"
UAE 25	Nasser Mohd Salem	15d	M	"	positive	"

^a All specimens tested at C.D.C., Atlanta, USA

SERIAL NO.	PATIENT			DATE RECEIVED	RESULTS	
	NAME OR CASE NO.	AGE	SEX		HERPES VARICELLA	VARIOLA VIRUS
UAE 26	Mohd Abel Rohim Bawazir	5	M	"	positive	negative
UAE 27	Khamis Hamad Khamis	35	M	"	negative	"
UAE 28	Saleh Ahamed	18	M	"	positive	"
UAE 29	Ibrahim Shah Hassam	20	M	"	"	"
UAE 30	Abdul Rahman Omar B. Agid	16	M	"	"	"
UAE 31	Aly Mohd. Saleh	27	M	20.7.78	"	"
UAE 32	B. Unny	28	M	"	"	"
UAE 33	M. Sivaraman	25	M	"	"	"
UAE 34	Katsamobied Saaer	60	F	"	negative	"
UAE 35	Chandran Gopal	27	M	"	positive	"
UAE 36	Saleh Ahamed	18	M	"	"	"
UAE 37	Obied Sief Obied	7	M	"	"	"
UAE 38	Vishnydas	25	M	"	"	"
UAE 39	Henry F. Pereira	45	M	"	negative	"
UAE 40	Nora Saied Raghid	10	F	"	positive	"
UAE 41	Salleed Salem Hashel Abdalla	28	M	"	negative	"
UAE 42	Afra Hamed Fadel	22	F	"	positive	"
UAE 43	Nayal Adil Mahmood	9	M	"	"	"
UAE 43A	Zainab Fatima Sallen	2	F	"	negative	"
44	Ahmed Salim	10	M	9.8.78	"	"
45	Mohamed Said Ali	34	M	9.8.78	positive	"
46	Krishnan Kutty	46	M	"	"	"
47	Ali A. Rahman	29	M	"	negative	"
48	Noor Mohamed	31	M	"	"	"
49	Vishnawatan	36	M	"	"	"
50	Abdulla Hourad	18	M	"	"	"
50A	Ali Mohammed Juma	8	M	"	positive	"