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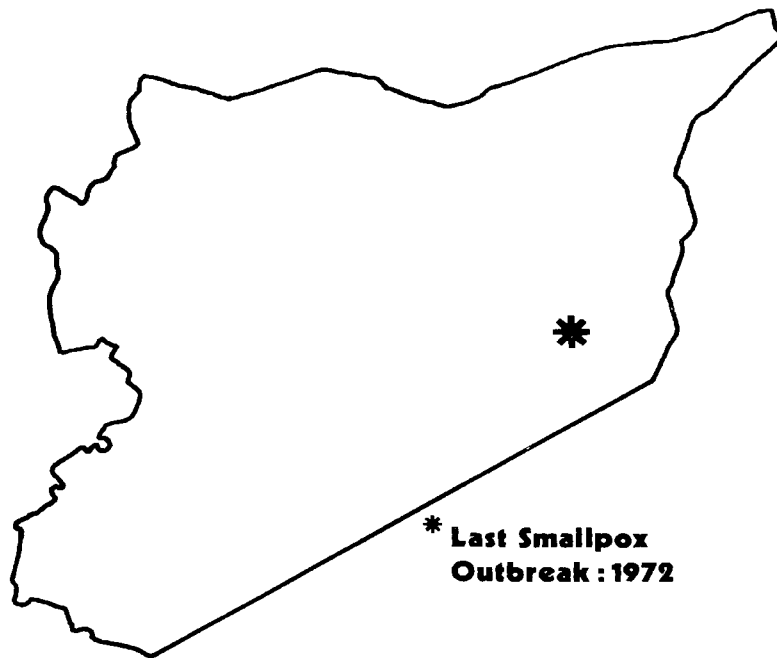
ORIGINAL: ENGLISH

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

INDEXED



# SYRIAN ARAB REPUBLIC



**Ministry of Health, Syrian Arab Republic**

**World Health Organization**

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## OUTLINE FOR COUNTRY REPORT - MINIMUM INFORMATION

## A. BASIC DEMOGRAPHIC DATA

1. Population: 7 596 000 (1976 estimate).
2. Area: 185 680 km<sup>2</sup>.
3. Population density: 40.9 persons/km<sup>2</sup> (see Fig. 1).
4. Urban population: 46.2% of total.
5. Rural population: 53.8% of total.
6. Nomadic population: included in rural population, estimated less than 5% of total.
7. Total number of villages: 6319.  
(See also Annex 1)

## B. ADMINISTRATIVE UNITS (see Fig. 2)

Type of Division	Total number in country
Mohafazat (governorate)	14
Mantika <sup>1</sup> (district)	48
Nahia (sub-district)	127

<sup>1</sup> Previously known as "Qada".

## C. HEALTH SYSTEM (see Fig. 3)

1. Number of urban hospitals and clinics: 71.
2. Number of rural hospitals and clinics: 184.
3. Number of infectious diseases hospitals:               wards:
4. Health system structure relevant to communicable disease control (see Fig. 4).

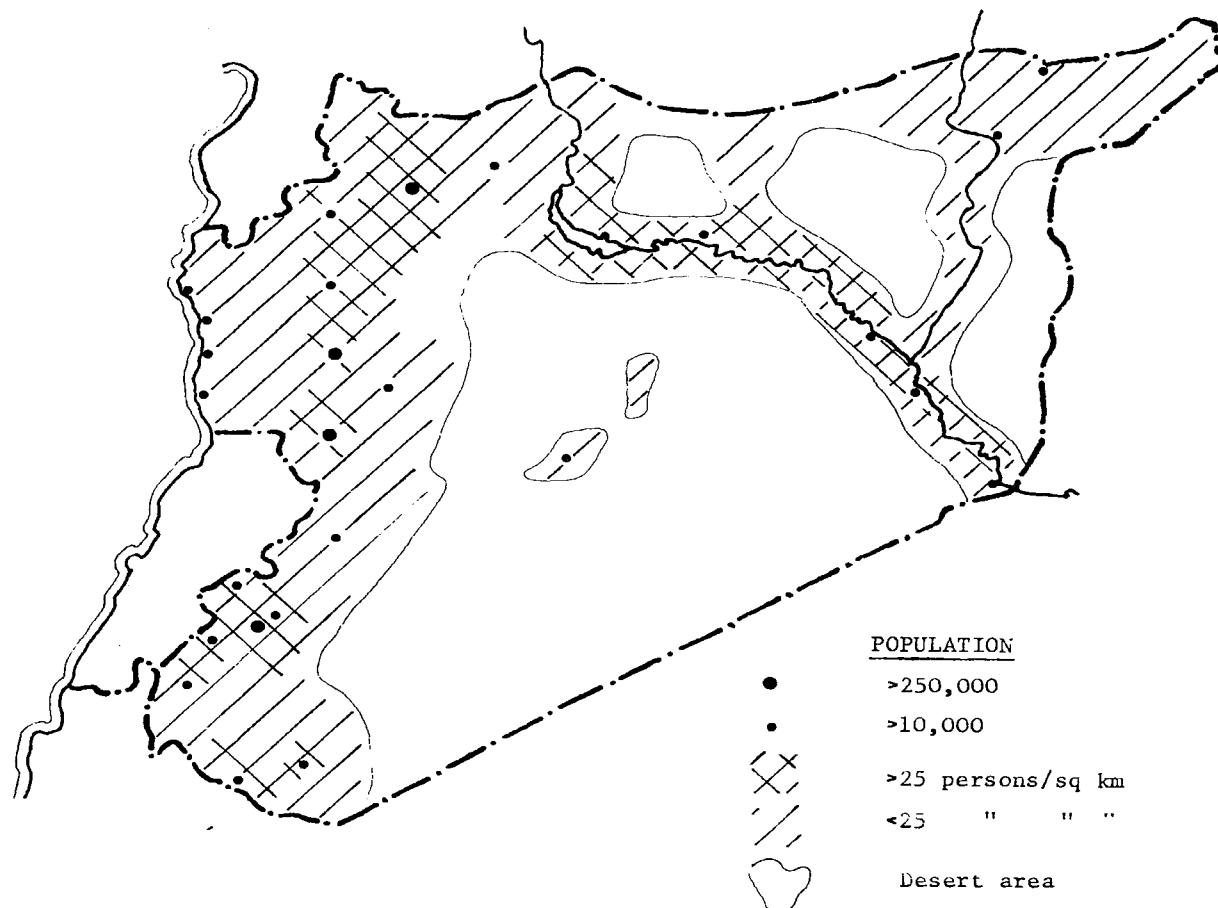
## D. REPORTING SYSTEM FOR NOTIFIABLE DISEASES (see Fig. 4)

There are two categories of notifiable disease: "compulsory notifiable" (13 were listed in the 1972 annual statistical report and 26 in 1976) and "voluntary notifiable".

These diseases are reported by doctors in health centres and dispensaries to the Directorate of Health in each mohafazat, on a special form (Annex 2). The Assistant Director of Preventive Services at the mohafazat is responsible for investigating reports if considered necessary. The mohafazat reports monthly to the Ministry of Health and sends the original reporting forms with follow-up investigation findings.

Smallpox and chickenpox are both compulsory notifiable diseases, although after 1973 smallpox is not listed in the annual statistical report. Since 1972 there have been no cases notified as suspected smallpox.

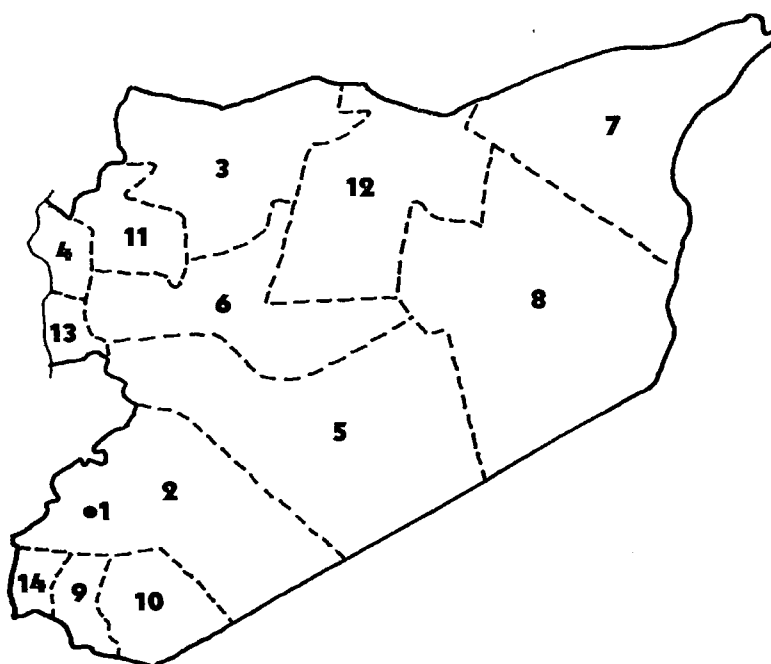
FIG. 1. (a) SCHEMATIC REPRESENTATION OF POPULATION DISTRIBUTION, 1975



(b) PERCENTAGE URBAN POPULATION AND POPULATION DENSITY BY MOHAFAZAT, 1975

Mohafazat	% of total pop <sup>n</sup>	% urban	Density km <sup>2</sup>
Damascus City	14.2	100.0	98
Damascus	10.0	29.4	98
Aleppo	20.7	57.2	95
Homs	8.6	49.6	15
Hama	8.2	36.3	68
Lattakia	6.0	41.7	193
Der ez Zour	4.5	33.1	10
Idleb	5.8	23.6	70
Al hasakeh	7.2	22.0	23
Al Raqqa	3.8	25.3	13
Al Sweida	2.2	29.0	29
Dar'a	3.8	14.5	76
Tartous	4.7	19.2	184
Al Quneitra	0.3	-	10
TOTAL	100.0	46.2	40

FIG. 2. ADMINISTRATIVE DIVISIONS OF SYRIA  
14 MOHAFAZATS (GOVERNORATES)



- |                  |                 |
|------------------|-----------------|
| 1. Damascus City | 8. Idleb        |
| 2. Damascus      | 9. Al Hasakeh   |
| 3. Aleppo        | 10. Al Raqqa    |
| 4. Homs          | 11. Al Sweida   |
| 5. Hama          | 12. Dar'a       |
| 6. Lattakia      | 13. Tartous     |
| 7. Der ez Zour   | 14. Al Quneitra |

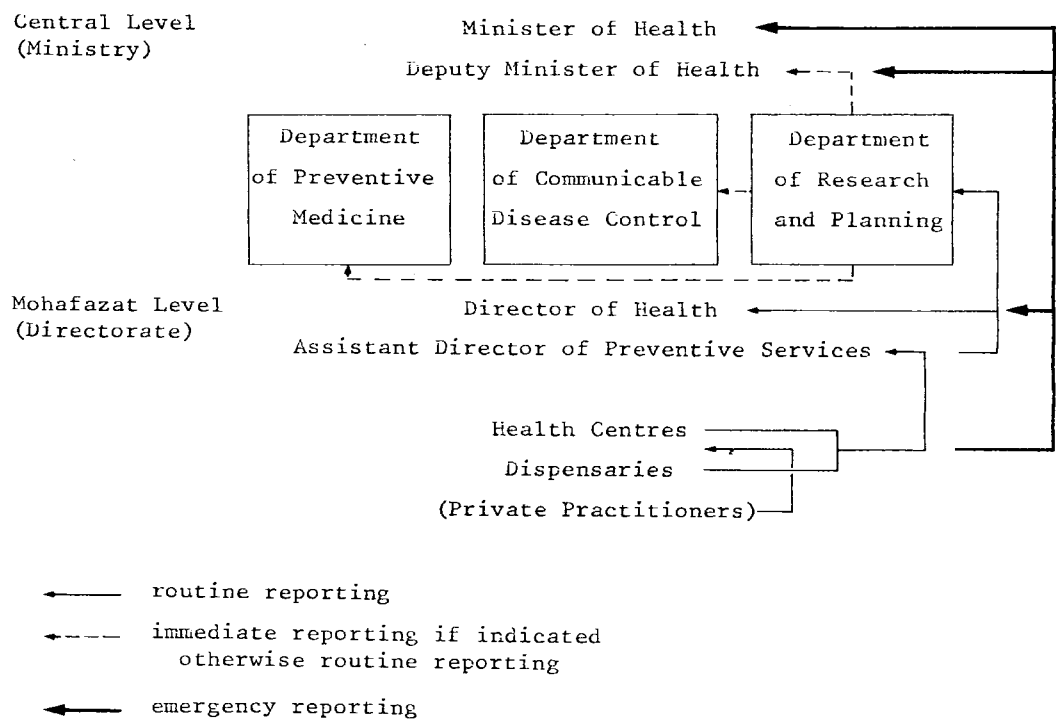
FIG. 3. URBAN AND RURAL HEALTH CENTRES,<sup>1</sup> DISPENSARIES,<sup>1</sup> NURSES<sup>2</sup> AND PHYSICIANS<sup>2</sup> BY MOHAFAZAT

Mofafazat	Total	Rural health centres and dispensaries			Urban health centres and dispensaries	Nurses	Physicians
		Total	Sub district	District			
Damascus City	22	-	-	-	22	725	1 050
Damascus	31	31	25	6	-	48	351
Allepo	31	23	15	8	8	203	616
Homs	18	14	9	5	4	62	169
Hama	17	13	9	4	4	105	159
Lattakia	14	9	6	3	5	63	116
Der ez Zour	13	10	8	2	3	45	82
Idleb	23	20	15	5	3	61	54
Al Hasaken	14	13	9	4	1	47	68
Al Raqqa	16	8	7	1	8	24	52
Al Sweida	16	14	10	4	2	74	21
Dar'a	17	12	11	1	5	18	38
Tartous	16	14	19	5	2	56	48
Al Quneitra	8	4	1	3	4	-	-
TOTAL	256	184	144	51	71	1 531	2 824

<sup>1</sup> 1977.

<sup>2</sup> 1976.

FIG. 4. HEALTH SERVICES STRUCTURE RELEVANT TO COMMUNICABLE DISEASE CONTROL AND REPORTING SYSTEM FOR NOTIFIABLE DISEASES



E. SMALLPOX DATA

1. Cases and deaths reported by year 1925-1978

FIG. 5

Year	Cases	Deaths	Year	Cases	Deaths
1925	46	-	1943	715	88
1926	1	-	1944	91	21
1927	98	-	1945	16	18
1928	488	5	1946	8	-
1929	375	-	1947	1	-
1930	158	10	1948	902	-
1931	6	0	1949	646	-
1932	109	0	1950	14	2
1933	435	-	1951	2	2
1934	1 011	0	1952	2	1
1935	48	-	1953	3	2
1936	1	-	1954	7	0
1937	0	-	1955	-	1
1938	0	-	1956	-	8
1939	1	-	1957	41	3
1940	1	-	1958-71	0	0
1941	1	-	1972	54	2
1942	1 657	541	1973-77	0	0
			1978	0	0

2. There has been no major epidemic of smallpox in Syria for many years. It is of interest that the large outbreaks of 1948-49 were attributed to importations from Iraq and the smaller outbreaks of 1957 and 1972 to importations from Lebanon and Iraq respectively.

3. The last smallpox outbreak (see Annex 3 for outbreak report and map)

Location: Der ez Zour Mohafazat  
Mayadin District  
Kechme and surrounding villages

Onset of first case: 9 March 1972  
Date of detection: 21 March 1972  
Outbreak declared closed: 14 May 1972

Total reported cases: 54  
Total reported deaths: 2

Source of infection: Baghdad, Iraq

Control measures: - isolation camp at Mayadin for all smallpox cases;  
- isolation of infected villages and disinfection activities;  
- compulsory vaccination campaign launched throughout Syria with priority given to infected area;  
- vaccination centres established in large cities and towns.

4. Suspected smallpox cases since 1972

Nil.

F. SMALLPOX VACCINATION DATA

The policy has been to give primary smallpox vaccination to all children during the course of infant immunization, usually between the age of six months and two years. In practice this only covers a small number of children. The bulk of vaccinations are given through the school health service, the vaccination programme of which was reactivated in 1973 with the policy to vaccinate all school children in the first (six years old) and sixth grades of school.

Vaccinations performed by health centres and dispensaries in the years 1971-1976 are shown in Fig. 6.

FIG. 6. REPORTED SMALLPOX VACCINATIONS PERFORMED 1972-1978

	1971	1972	1973	1974	1975	1976	1977	1978
Damascus City	5 391	52 427	1 290	93	-	602	24 516	
Damascus					-	-		
Aleppo	137	-	-	10 429	103	5 783	415	
Homs	17 110	158 674	40 493	29 471	19 257	27 489	32 682	
Hama	383	52 245	6 072	261	-	-	704	
Lattakia	9 314	66 989	8 934	17 684	11 893	6 532	9 716	
Der ez Zour	-	104 045	1 766	.	-	-	2 334	
Idleb	19 563	153 063	15 806	34 829	21 767	11 115	17 060	
Al Hasakeh	3 318	159 262	6 634	5 951	157	-	11 464	
Al Raqqa	1 178	19 395	804	399	1 919	940	110	
Al Sweida	19	2 048	157	333	27	365	1 471	
Dar'a	4 012	8 873	3 191	13 787	-	3 646	2 216	
Tartous	15 322	102 817	21 029	12 481	12 781	4 984	19 352	
Al Quneitra	-	-	-	-	-	-	-	
TOTAL	75 748	897 828	106 176	125 718	67 904	61 456	122 040	
Primary Vacc <sup>n</sup>	73 176	841 981	101 755	117 458	59 648	52 342		
Revaccination	2 572	37 847	4 421	8 260	8 246	9 114		

Vaccinations performed in schools are separately reported through the Ministry of Education. Reports of school vaccinations performed are compared with the total number of children in the first and sixth grades to calculate the coverage achieved. National data are shown for the school years since 1973 and figures by mohafazat for the 1976/77 school year (Fig. 7).

It should be noted here that due to technical difficulties in vaccine production glycerinated vaccine has at times been used. No figures were available for vaccination "take" rates nor coverage assessment by vaccination scar survey.



FIG. 7. VACCINATIONS PERFORMED BY SCHOOL HEALTH SERVICE AND COVERAGE ACHIEVED 1973-1976, BY MOHAFAZAT FOR 1976

Year	Mohafazat	Children expected to be vaccinated	Children reported vaccinated	Percentage coverage achieved
1973/74	All			
1974/75	All			
1975/76	All	394 477	282 374	72.0
1976/77	Damascus City	51 612	47 365	91.8
	Damascus	35 502	32 675	92.3
	Allepo	73 279	43 692	59.6
	Homs	39 345	9 908	25.2
	Hama	36 808	12 532	34.7
	Lattakia	28 769	26 085	90.7
	Der ez Zour	14 647	12 717	86.8
	Idleb	25 401	21 199	83.5
	Al Hasakeh	21 042	12 901	61.3
	Al Raqqa	12 605	13 747	109.0
	Al Sweida	10 847	11 355	104.0
	Dar'a	17 206	15 868	92.2
	Tartous	23 275	22 642	97.3
	Al Quneitra	5 143	5 143	100.0
	All	394 781	212 748	66.0

G. CHICKENPOX DATA<sup>1</sup>

1. Reported chickenpox cases and deaths 1970-1978

FIG. 8

Mohafazat	% of pop <sup>n</sup> (1975)	1970	1971	1972	1973	1974	1975	1976	1977	1978
Damascus City	14.2	602	383	304	235	283	423	553	378	
Damascus	10.0			148	86	47	53	162	237	
Aleppo	20.7	287	124	240	283	242	130	147	190	
Homs	8.6	64	15	36	53	32	23	32	68	
Hama	8.2	48	33	45	12	22	40	54	29	
Lattakia	6.0	31	10	10	2	2	12	23	30	
Der ez Zour	4.5	66	11	14	9	17	9	12	26	
Idleb	5.8	142	44	62	9	68	17	35	33	
Al Hasakeh	7.2	65	103	33	19	18	10	1	18	
Al Raqqa	3.8	16	8	22	21	21	7	25	21	
Al Sweida	2.2	5	1	-	1	2	8	2	-	
Dar'a	3.8	28	1	2	2	-	-	-	-	
Tartous	4.7	41	38	21	10	47	11	61	25	
Al Quneitra	0.3	6	8	3	1	6	-	1	2	
TOTAL	100.0	1 401	779	940	773	867	743	1 108	1 057	
Deaths		2	-	1	3	*	*	*	*	

\* Not individually reported - i.e. included under "Other viral infections".

FIG. 9. REPORTED CHICKENPOX CASES BY MONTH 1976-1978

Year	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1976	1 108	111	146	173	187	151	127	60	23	19	37	49	26
1977													
1978													

<sup>1</sup> Annex 4 provides information on measles and other skin disease cases reported 1970-1976.

2. Summary of investigation findings of all chickenpox deaths 1976-1978

Date	Mohafazat	District	Cases	Deaths	Final diagnosis	Investigated by
NO CHICKENPOX DEATHS REPORTED						

H. LABORATORY DATA

No laboratory investigation results are available for the period April 1972 to May 1978 with the exception of one negative specimen tested in July 1974.

It is anticipated that specimens will be collected from chickenpox cases in the coming months.

ANNEX 1

ADDITIONAL DEMOGRAPHIC DATA

Crude birth rate	(1975)	47.8 per 1 000
Crude death rate	(1975)	14.8 per 1 000
Natural growth rate	(1975)	33.0 per 1 000
Infant mortality	(1975)	112.5 per 1 000

Age distribution of population (1975)

<u>Age group</u>	<u>% of total population</u>
1	3.7
1-4	15.2
5-14	30.4
15-24	16.9
25-44	19.9
45-74	12.2
75+	1.7

NOTIFIABLE DISEASE REPORTING FORM

اخبار بوقوع مرض سار

اسم المرض ..  
تاريخ بدء المرض ..  
تاريخ مشاهدة المرض ..  
مكان حدوث الإصابة ..  
التشخيص سريريا  مخبريا  ..  
اسم المريض .. العمر ..  
الجنس: ذكر  انثى  ..  
اسم الاب ونسبته .. اسم الام ونسبتها ..  
محل الإقامة: محافظة .. منطقة .. ناحية ..  
المحيط الذي خالطه المريض ..  
المهنة ..  
التدابير الوقائية المتخذة: عزل  تلقیح  تبخیر  ..  
ملاحظات: ..  
التاريخ / / ١٩٦٦ ..  
اسم الطبيب ونسبته ..  
التوقيع ..

يرجى الاطلاع على الملاحظة في ظهره .

Communicable diseases reporting form - Syria

Notification of cases of communicable diseases

Notes

1. The original should be kept by the physician or with the health institution.
2. Physicians should send the notification to the provincial health directorate whether they practise in the State or private sector.
3. The statistics office in the health directorate should send the notification to the Division of Statistics at Damascus after informing the health directorate.

Disease . . . . .

Date of onset . . . . .

First observed on . . . . .

Place of occurrence . . . . .

Clinical diagnosis  Laboratory diagnosis

Name of patient . . . . .

Sex: male  female

Full name of father . . . . . of mother . . . . .

Place of residence: governorate . . . . area . . district . .

Patient's contacts . . . . .

Occupation . . . . .

Preventive measures taken: isolation      Vaccination  
 fumigation . . . . .

Notes: . . . . .  
 . . . . .

Date ..../..../197

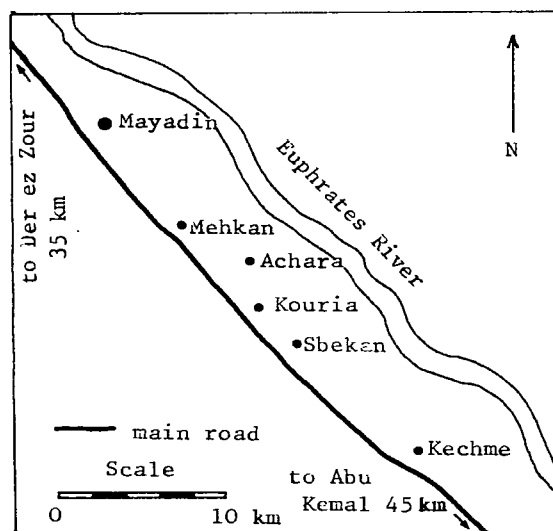
Full name of physician . . . . .

Signature . . . . .

Please see notes overleaf

REPORT CONCERNING SMALLPOX CASES INTRODUCED INTO SYRIA - MAYADIN, 1972<sup>1</sup>

On 22 March 1972, the Ministry of Health in Damascus received an official declaration from Der ez Zour (a Syrian province on the Iraq border) confirming an outbreak of smallpox in Kechme and Sbekan villages in Mayadin District. A medical team was sent out to investigate. Below is a map showing the infected area.



Detection of the outbreak

Dr Mahmoode Chaouaibi (chief doctor of the medical personnel in Mayadin) stated that he had seen in his private offices on 17 March 1972 an eight-year-old student from Kechme who seemed to be suffering from a fever similar to that of typhoid infection. This patient returned on 21 March with a lowered temperature, sweating, a facial flush, and that evening pustules began to appear on the patient's forehead (this was four days after the start of the fever).

Elsewhere the same day, Dr Turkey Kambar (private doctor in Achara) treated two rash cases:

Abdel Nasser Abdulla - nine-year-old student from Kechme  
Mouhamed Allouchy - eight-year-old student from Kechme

These students attended the same school in Kechme and there were also children in attendance from neighbouring villages. Having been advised of the situation, the responsible medical officer from Der ez Zour examined the two cases and declared an outbreak of smallpox in the region. The patients were put in quarantine in the Mayadin Hospital.

Source of infection

A public dispensary in the region is located in the village of Achara. On 19 March, a nine-year-old student named Ammache Jassem Tourfa was seen and diagnosed as a case of chickenpox. He was treated and sent home. Two other students were also diagnosed as

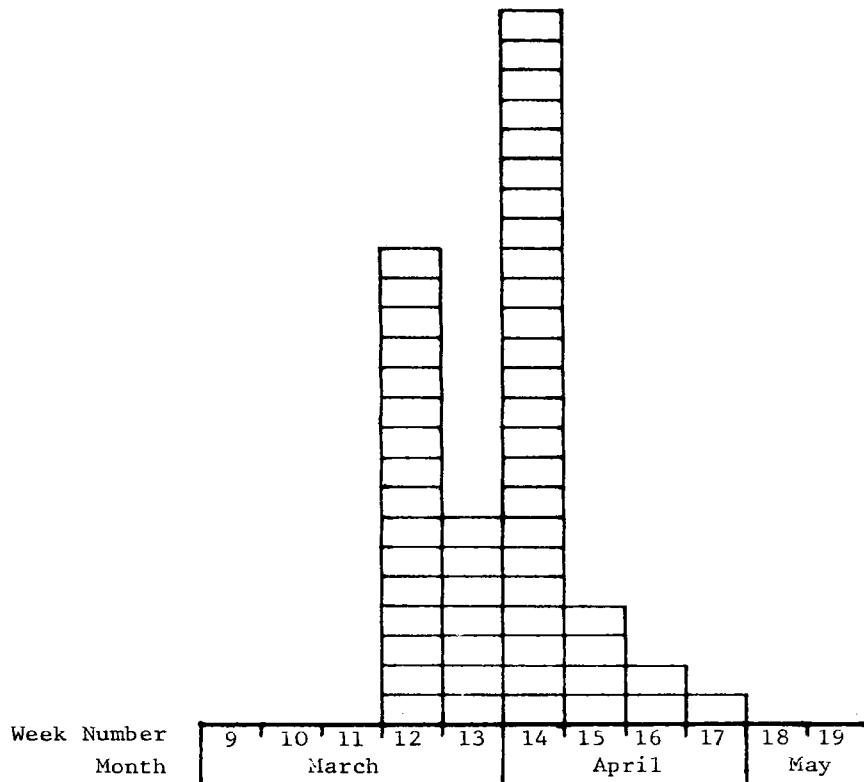
<sup>1</sup> Translated and adapted from an initial report made in French on 10 April 1972 supplemented by information from the Ministry of Health in Damascus. Some data is recorded as unknown because it was not included in the initial report.

Annex 3

chickenpox on 20 March. It is probable that Tourfa who first developed fever on 9 March was the index case in Syria. During an interview with him, he said that he had recently visited Baghdad, Iraq with his mother. His mother did not contract smallpox; she explained that she had had the disease in 1943.

Smallpox was introduced into Syria by Ammache Jassem Tourfa who contracted the disease in Baghdad, Iraq. The disease was propagated in his school in Kechme and from there spread to several villages in the region.

SMALLPOX CASES BY WEEK OF REPORTING  
MARCH - MAY 1972



One case



Characteristics of the reported smallpox cases

1. Age distribution

<u>Age group</u>	<u>Cases</u>
1	1
1-5	7
6-10	19
11-15	4
16-25	3
26+	5
Unknown	6
TOTAL	54

2. Distribution by occupation

Students	9 cases
Farmers	20 cases
Preschool children	10 cases
Unknown	15 cases

3. Mortality

Two deaths occurred: a 29-year-old woman and a 10-year-old boy died 17 and 30 days after hospitalization respectively.

Laboratory diagnosis

The results of three specimens received by WHO in Geneva and tested at Atlanta, United States of America are shown below:

Patient	Electron microscopy	Agar gel	Virus isolation on CAM	Tissue culture
Abdul Nasser	+	+	Variola	Variola
Amache Afandi	+	+	Variola	Variola
Abraham Ahmad Hassan	+	+	Variola	Variola

Control measures taken

The following measures were taken to control the outbreak:

1. Establishment of isolation camp in Mayadin. The first patient was isolated on 22 March 1972 and the last case released from isolation on 14 May 1972.

Annex 3

2. The infected villages were cordoned off.
3. Compulsory vaccination in all of Syria, with priority in infected regions.
4. Disinfection of the personal effects of each smallpox patient.
5. Establishment of vaccination clinics in the larger cities, and sending vaccination teams out to the villages.
6. Advertising about vaccination and smallpox infection.
7. Amassing a supply of vaccine.
8. Requirement of vaccination certificates from travellers within Syria.

INFORMATION ON OTHER RASH DISEASES REPORTED

Reported measles cases 1972-1976, by Mohafazat

Mohafazat	% of total pop <sup>n</sup> (1975)	1970	1971	1972	1973	1974	1975	1976
Damascus City	14.2	735	441	301	301	509	344	323
Damascus	10.0			278	124	121	116	153
Aleppo	20.7	519	297	862	638	407	510	131
Lattakia	6.0	51	42	19	5	14	18	17
Homs	8.6	92	1	133	23	297	31	20
Hama	8.2	83	12	103	50	48	72	57
Al Hasakeh	7.2	788	380	286	230	29	201	18
Der ez Zour	4.5	199	286	118	181	138	244	200
Dar'a	3.8	78	-	-	1	2	-	3
Al Sweida	2.2	-	9	15	11	40	12	4
Idleb	5.8	358	25	206	10	118	135	6
Al kaqqa	3.8	72	61	12	122	64	177	65
Tartous	4.7	76	29	12	82	136	197	56
Quneitra	0.3	4	2	11	5	8	-	1
TOTAL	100.0	3 055	1 385	2 236	1 783	1 931	2 057	1 054
Deaths		199	68	241	68	165	132	

Other skin diseases reported (as voluntary notifiable diseases)

	1972	1973	1974	1975	1976
Herpes zoster	2	2	4	3	4
Scabies	2 212	1 720	2 483	3 112	2 592
Dermatophytosis	1 070	749	857	614	316
Impetigo	104	71	39	21	9