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USE OF SURVEILLANCE TEAMS IN RAJASTHAN

by

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We have been trying to overcome the problem of smallpox since the time of Dr Jenner and his historic discovery of smallpox vaccination. Since then we have been using the age old method of improving vaccination status.

The National Smallpox Eradication Programme was started in Rajasthan along with other States of India in 1962-63. Our performance up to 1969 did not bring the desired results inspite of the fact that a large number of people were vaccinated every year and Health Education was promoted. Important measures have been taken to improve the situation in Rajasthan but, before discussing these, something must be said about the State itself.

Rajasthan State - Geography

Rajasthan is the second largest State of India comprising nearly 10% of the total area of the country. It occupies a strategic position, having a long border with Pakistan in the West, Punjab and Haryana in the North, U.P. and M.P. in the East and Gujarat in the South. The State has 26 Revenue Districts with 157 towns and 32 242 villages. The terrain of the State has unique features. The whole of Western Rajasthan, nearly two-thirds of the area, is comprised of desert. This area is most difficult, and is extremely hot and dry in the summer. Drinking water is not available for miles; there are no roads inter-connecting the villages; the villages are situated at a very long distance from each other and often one has to walk 10 to 15 miles to reach a village. It becomes still more difficult for a vaccinator, especially as even cycling is not possible in this area. The Districts of Jaisalmer, Barmer, Jalore, Nagaur, Pali, Jodhpur, Bikaner, Sikar, Jhunjhunu and Churu fall in this desert belt. A special feature of the area is that a group of houses is designated as a village and a still smaller cluster of houses around a nucleus village is known as a Dhani (Hamlet).

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Thus, a village in Rajasthan is not comparable to a village in Uttar Pradesh or Punjab, where a village is comprised of a much larger population. The entire strategy of effective surveillance has to be based on proper coverage of all households located in these Dhanies. One has to walk for miles to reach each such Dhani and thus house to house visits for surveillance pose a logistics problem.

In Jaisalmer, the density of population is only 4 persons per square kilometer, and the average density of population for the whole of Rajasthan is 75 persons per square kilometer.

Rajasthan was formed by merging a number of princely States, of which only three or four have any public health services. The literacy rate is only 19% against the average for the country of 29%.

Formation of Mobile Squads and Surveillance Teams

In 1969, the Government of India proposed a new staffing pattern and a new strategy of operation for the Fourth Five Year Plan, which lays special emphasis on surveillance containment action, follow-up visits, and case tracing. Accordingly the staffing pattern in the State was also revised, and 5 vaccinators were added to each District to form "MOBILE SQUADS".

In 1970, there had been a severe outbreak of smallpox in Alwar District during the months of August, September, and October. Thus, we thought of developing special groups which could act like a fire-brigade and rush immediately to control outbreaks in affected areas. Therefore, from available staff at the Regional level and at District Headquarters, we formed Epidemic Squads attached to the office of the Assistant Director of Health Services, and in the Districts the following persons:

Paramedical Assistant/Health Educator	1
Vaccination Supervisor	1
Sanitary Inspector	1
Vaccinators	2

In 1972 we designated these "Epidemic Squads" as Regional Surveillance Teams and District Surveillance Teams.

Development of Central Surveillance Team

In 1970, to improve the surveillance at the Directorate level, we deputed staff to initiate immediate action on receipt of outbreak reports received in the Directorate from the periphery and the District Health Officers. This team was designated as the "CENTRAL EPIDEMIC SQUAD". In the beginning it consisted of a Paramedical Assistant, a Sanitary Inspector and a vaccinator.

In September 1970, meetings at a district level were arranged to highlight the importance of the new strategy to the workers, i.e. early reporting of the cases, proper investigation of the source of infection, and immediate containment measures. In December, meetings of Paramedical Assistants/Health Educators and staff of the Central Team were held at Ajmer to impart training to Senior Paramedical Workers next to the District Health Officers, for implementation of this Programme. This staff constitutes an important link for giving proper training to P.H.C. staff and vaccinators posted at the periphery. All Regional Assistant Directors of Health Services of the State participated actively in this meeting.

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The high incidence of smallpox in Rajasthan attracted the attention of the Government of India and WHO authorities and a number visited to review the programme and to discuss strategy. A WHO Medical Officer, Dr Monnier, joined Headquarters staff to train the personnel in the new strategy. As a result of these consultations, it was decided to adopt the new strategy of thorough vaccination of only 60 - 70 houses round about the affected household within a period of two days. Also, the then existing Central Surveillance Team was enlarged to include two Paramedical Assistants, two Vaccination Supervisors, and two Sanitary Inspectors. This team works under my guidance with the active participation of the Programme Officer and the WHO Medical Officer.

The State Surveillance Team has been formed at the Directorate level to act like a fire-brigade and has the following objectives:

(1) To supervise, impart training, give guidance to local workers of the PHC and the District Surveillance Teams in taking proper containment measures and investigating outbreaks of smallpox.

(2) To establish proper surveillance by actively tracing missed smallpox cases by door to door visits in affected villages in the surrounding areas.

(3) To ensure that peripheral staff remain alert in performing duties as per existing strategy.

(4) To see that smallpox cases do not remain unreported for any reason.

(5) To collect intelligence from the periphery regarding smallpox cases, immunity status, and reasons for delayed notification, etc., so as to act as a watch-dog.

The State and Regional Surveillance Teams have vehicles so that they can move freely in the affected areas for proper investigation, immediate containment action and surveillance, but these vehicles are very old and need to be replaced.

The performance of the State Surveillance Team during 1972 is given in Table I. The effect of the work of these teams is illustrated by Figure 1 which shows the incidence of smallpox in India and Rajasthan during 1971-72. Due to improved surveillance and the immediate containment action taken by the State and District Surveillance Teams, the incidence of smallpox has shown a gratifying downward trend.

Introduction of the Surveillance Proforma - A Bird's Eye View

At the State level a new proforma was devised (Annex 1) for recording containment action taken and follow-up visits made so as to keep watch on the supervision. All District Health Officers and Primary Health Centres have been instructed to display this proforma in the room of the District Health Officer and Medical Officer I/c PHC respectively, so that constant follow-up can be adhered to. This is now done and the State Surveillance Team ensures that the local staff not only displays it but also sees that all data is correct and authentic.

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Launching of Special Surveillance Drive in 1971 & 1972

To detect smallpox at the earliest opportunity it was decided last year to carry out a special surveillance drive to educate the field health staff about the need to remain vigilant, to actively look for smallpox cases, to take immediate steps to notify cases to the concerned authorities and simultaneously to launch containment action along with proper follow-up. This special programme was conducted from 12 May 1971 to 12 July 1971, proceeding from west to east, village by village, with the specific objective of hunting for smallpox cases and, side by side, vaccinating unprotected children where possible. The 1971 drive showed encouraging results and it was seen that a new wave of enthusiasm and confidence was present amongst workers and social leaders to notify smallpox cases. This year, a similar Special Surveillance Drive is being initiated from 3 October to 28 November, covering 40 working days during which all categories of health workers - staff of NSEP, Family Planning, Malaria, etc. - are asked to hunt out smallpox cases during their visits in rural and urban areas. The objective is not to disturb their normal work but to stress the need for making positive efforts to detect smallpox cases, if any, at the earliest stage, so that advantage can be taken of the low endemicity during this time of the year to break the remaining chains of transmission. Meetings were organised at the district level during September to convey the aims and objectives of this drive to PHC staff so that it could be completed within the stipulated time. It is further hoped to ingrain the habit of detecting smallpox cases through an active hunting process and to evolve rapid channels of communication through active participation of the local leaders, school teachers and other official and non-official agencies.

This drive will be followed up again in March 1973 to ensure that smallpox cases are detected in the shortest possible time throughout the State (Annex 2).

Improvement in Reporting System

On 16 September 1972, a meeting of the District Health Officers was organised. Two days later we had a meeting of the Co-ordination Committee under the Chairmanship of the Chief Secretary. The decisions endorsed at both of these meetings were:

1) Introduction of "Direct Reporting System" to the State Headquarters regarding outbreaks of smallpox by each of the PHC Medical Officers. The Medical Officers I/c PHC's have been asked to inform, telegraphically, every outbreak of smallpox. A copy of the weekly reports of smallpox incidence will also be sent by the PHC's to the Directorate every week. Even 'nil' reports will be sent every week by the Medical Officer I/c PHC.

2) Introduction of Business Reply Card

It was also agreed to introduce pre-addressed pink coloured Business Reply Cards which have been given to the various categories of workers of our Department as well as to workers in other departments, such as Development, Revenue, Education and Ayurvedic, and also to the non-official agencies to facilitate their co-operation in reporting of smallpox. This card, addressed to the Director of Medical and Health Services, Rajasthan, Jaipur, has been introduced so that public health staff at the periphery and the staff of the other departments will have no difficulty sending information regarding an outbreak of smallpox or any other communicable disease for want of postage stamps. It is expected that this system will help us to get information much more quickly.

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Other Methods of Surveillance followed in Rajasthan

1) Temple Surveillance

Recently we have developed one more method of surveillance - visits to the Shitla Mata Temple on fair days and on other fixed days of the week when the villagers come to offer their prayers to the goddess 'Shitla' along with children who have previously suffered from smallpox. By paying follow-up visits to such villages, we have been able to trace 21 outbreaks of smallpox which were not previously known.

2) Surveillance in Schools

By making enquiries from the school children about smallpox cases, we have been able to learn of several outbreaks of smallpox which were not previously known.

3) Another method which we have found very useful is to stop at road side villages or where a number of villagers are sitting along the road and to ask them about outbreaks of smallpox.

4) Surveillance in Hospitals, Dispensaries and Primary Health Centres

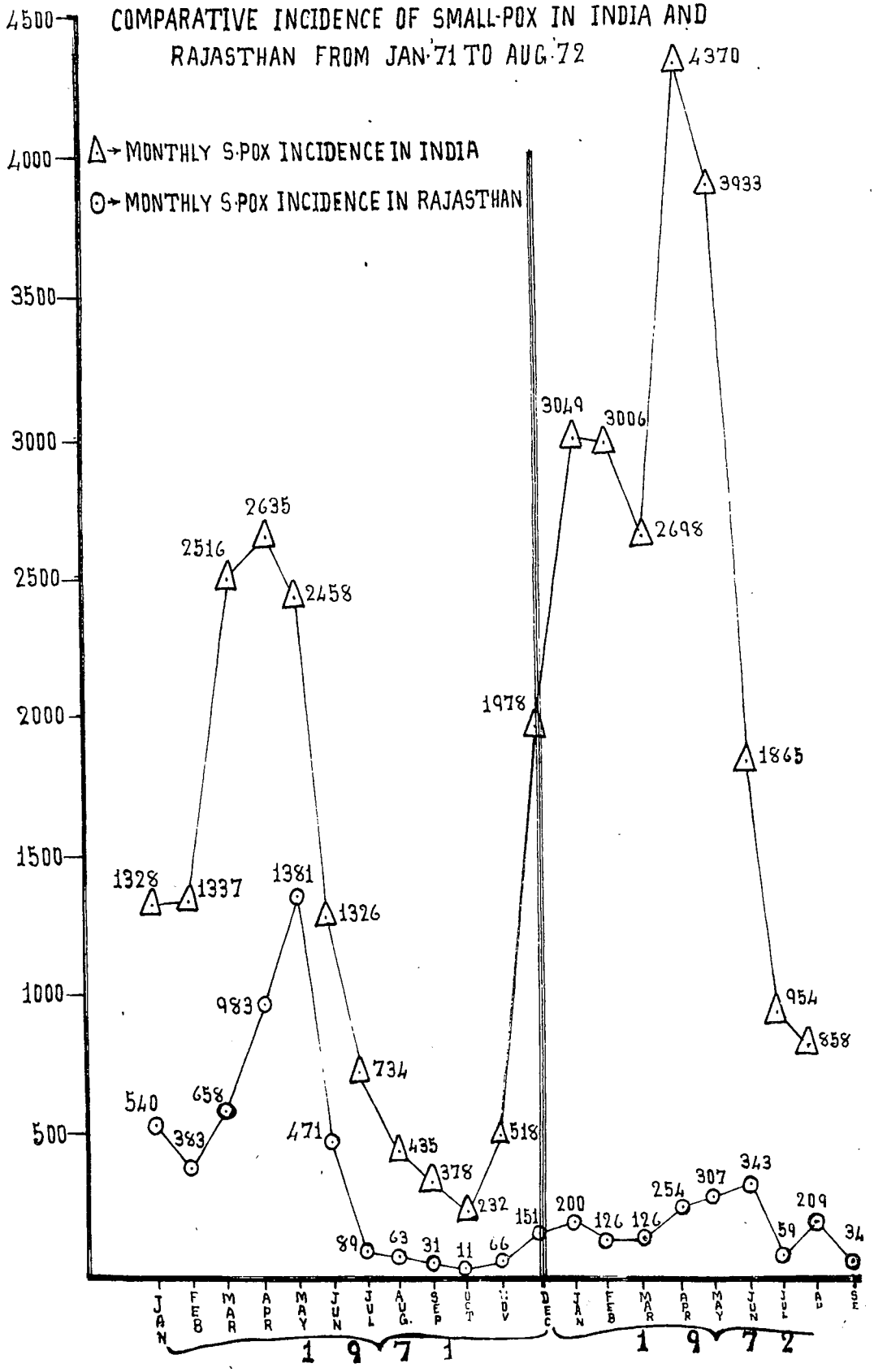
Since patients and their attendants come from various areas to the outdoor clinics and dispensaries. Questionning them can provide valuable information regarding outbreaks of smallpox in the areas they come from.

TABLE I

PERFORMANCE OF THE RAJASTHAN STATE SURVEILLANCE TEAM - 1972

	Population	.. 25 700 000
	No. of Districts	.. 26
	No. of PHC's	.. 232
	No. of villages	.. 32 242
	No. of PHC's having UNICEF vehicles	.. 92
1.	Number of districts visited by the Central Surveillance Team	.. 20
2.	Number of the Primary Health Centres affected with smallpox	.. 68
3.	Number of Primary Health Centres visited	.. 98
4.	Number of outbreaks of smallpox	.. 317
5.	Number of outbreaks investigated by the Central Surveillance Team	.. 161
6.	Number of visits paid for supervising containment action	.. 225
7.	Number of villages visited for surveillance	.. 2 460
8.	Visits paid to check the work done by District Surveillance Team	.. 85
9.	Primary Vaccinations performed by the Team during containment action	.. 2 656
10.	Re-vaccinations performed during containment action	.. 5 611
11.	Monthly average number of tour days per worker	.. 10 - 11 days

FIGURE 1


COMPARATIVE INCIDENCE OF SMALL-POX IN INDIA AND RAJASTHAN FROM JAN 71 TO AUG 72
MONTHLY S.POX INCIDENCE IN INDIA
MONTHLY S.POX INCIDENCE IN RAJASTHAN
4500
4000
3500
3000
2500
2000
1500
1000
500
1328
1337
2516
2635
2458
1381
1326
983
734
540
658
383
471
435
378
232
89
63
31
11
66
1978
518
151
3049
3006
2698
4370
3933
1865
954
858
200
126
126
254
307
343
59
209
34
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG.
SEP
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AU
SE
1971
1972

ANNEX 1

DIRECTORATE MEDICAL & HEALTH SERVICES, RAJASTHAN

NATIONAL SMALLPOX ERADICATION PROGRAMME

SMALLPOX ACTIVE SURVEILLANCE

A. PHC LEVEL REPORT

1. Name of District .....
2. Name of PHC .....
3. Total number of villages in the PHC .....
4. Total number of villages/wards/towns visited .....
5. Name of M.O. I/C PHC .....
6. Name of Sanitary Inspector/V.S. .....

B.

Sl. No.	Staff	Total No. of villages/wards along with towns visited by the staff	No. of Dhanies visited	Fresh smallpox case		Remarks (Give details of outbreaks if any, viz. name of villages along with number of cases
				YES	NO	
1	2	3	4	5	6	7
1.	Vaccinators					
2.	Malaria Staff SW/BHW					
3.	MCW & FP Staff					
	ANM/LHV					
4.	Others					
5.	Supervisory Staff					
	Medical Officer I					
	Medical Officer II					
	Vacc. Supervisor					
	Sanitary Insp.					
	AHW					
	Health Educ. Asst (Trachoma)					
	Non Medical Asst (Leprosy)					
	Health Insp.					
	Surveillance Insp					

Despatch No. Date SIGNATURE WITH DESIGNATION

ANNEX 1

PRIMARY HEALTH CENTRE LEVEL
R E P O R T

1) This report of Primary Health Centre Level will be prepared from the reports received from the field staff/Supervisory staff. The Vaccination Supervisor will be responsible for preparation and submission of this report. The Sanitary Inspector will provide necessary assistance in this work.

2) The report will be prepared in triplicate, one copy being submitted to the concerned District Health Authorities and the second copy to the Medical & Health Directorate, Rajasthan, Jaipur (Smallpox Cell).

3) The report will be submitted by the PHC staff immediately after closing date.

4) Filling up this Report:

(a) The work done by various workers should be grouped according to the staff mentioned in column No. 2 of the report. Then give the number of villages/wards along with towns visited in column No. 3; and the number of Dhanies visited in column No. 4.

(b) If any fresh case is detected in any of the villages/towns/Dhanies, make a ✓ mark in column No. 5; if not then in column No. 6.

(c) In case there is ✓ mark in column No. 5, i.e. fresh smallpox cases are detected, the details of the outbreak should be given in column No. 7. The name of villages/Dhanies/towns along with cases + deaths, addresses of the patients etc. should be given in this column. Also indicate whether containment action has been initiated or not. If required a separate sheet may be attached.

ANNEX 2

MEDICAL & HEALTH DIRECTORATE, RAJASTHAN
NATIONAL SMALLPOX ERADICATION PROGRAMME
SMALLPOX ACTIVE SURVEILLANCE
FIELD/SUPERVISORY STAFF PROFORMA

IF FRESH SMALL-POX CASE IS SEEN PLEASE NOTIFY IMMEDIATELY ON THE SAME DAY TO PHC AND DISTRICT AUTHORITIES

FOR WORKING INSTRUCTIONS, SEE REVERSE

A.

1. Name of the District .....
2. Name of PHC .....
3. Name of Town .....
4. Name of Worker .....
5. Designation .....

B.

Sl No	Name of villages/ towns/ward number visited	Name of Dhanies visited (give name of each)	FRESH SMALLPOX CASE		Date of visit	REMARKS IF ANY (If cases are seen give more details)
			YES	NO		
1	2	3	4	5	6	7

ANNEX 2

FIELD STAFF PROFORMA

1) This proforma will be used by the field workers of all categories viz. Smallpox/F.P./Malaria and others.

2) During the Smallpox Surveillance, only fresh smallpox cases, i.e. the person actually sick due to smallpox (any stage) will be reported.

3) The report will be prepared in duplicate, one copy will be submitted to the Medical Officer I/C PHC and the second copy will be kept by the worker.

4) Guide lines for filling up the proforma:-

   (a) If any fresh smallpox case is detected during the surveillance make ✓ mark in column No. 4; if not, make ✓ mark in column No. 5.

   (b) In column No. 7, if any fresh smallpox case is detected, give details of the case, i.e. date of fever, rash and present sta e, Also indicate whether containment action has been initiated or not.

5) Summary of work done by the worker is to be given on the last working sheet only and not on each page, and it should be in following proforma:-

RURAL				URBAN		
Total villages visited	Total Dhanies visited	No. of villages where smallpox prevailing	No. of Dhanies where smallpox prevailing	No. of wards visited	No. of wards where smallpox prevailing	Specific Remarks if any.