



INDONESIA 1972: SOME SMALLPOX SURVEILLANCE PATTERNS

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Cuboni, G. G. O.¹, Emmet, W. L. R.², Rai, N. K.³, Karyadi, A.⁴, Setiady, I. F.⁵

1. SUMMARY

During nine months in 1972 a special surveillance programme was carried out, with full involvement of local civil authorities: 696 meetings were held, which village chiefs attended at a rate of 74% (for infected villages, in III/IV Quarter) and smaller sub-divisions' leaders at a rate of 59% (RK leaders); 650 reports of possible cases were checked, leading to 1043 patients; 180 laboratory specimens were collected; 278 health centres were contacted; 97 schools close to previously infected areas were queried; and 27 724 people (among them village leaders, religious authorities, school teachers, etc.) were approached and questioned regarding possible smallpox cases. Since week 4, 1972, no confirmed smallpox cases have been detected in Indonesia.

2. INTRODUCTION

At the beginning of the summer of 1972, several months had already elapsed in Indonesia without further smallpox cases having been reported. The last case occurred in week 4, 1972 when the Tangerang outbreak proved to have been successfully contained.

At that point, the decision was made to undertake a special surveillance programme during which all villages which had reported cases since 1970 would be visited again. Among other considerations, the following were taken into account when drawing the relevant protocols and recording forms:

- (1) Those villagers who themselves had experienced smallpox as an epidemic disease were considered more likely to willingly report any subsequent cases or even rumours of smallpox.
- (2) The administrative authorities, in their well organized hierarchy, are probably among the most reliable sources of information, in Indonesia.
- (3) Previously infected villages should be given priority for search during the operation.

Although it varies to a moderate extent in some areas, the following may be considered as a general pattern of the administrative subdivisions of Indonesia: (the variations occur mainly in the nomenclature of the levels below Kecamatan, some of which do not exist in some areas)

- ¹ WHO Medical Officer, Team Leader, SE-INDONESIA-0081
- ² WHO Technical Officer, SE-INDONESIA-0081
- ³ Chief, Smallpox Eradication Unit, CDC, Jakarta
- ⁴ Chief, Epidemiological Surveillance Unit, CDC, Jakarta
- ⁵ Chief, Epidemic Diseases and Quarantine Directorate, CDC, Jakarta

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Name of the area	Title of its chief civil authority	Current English name for the area	Population range
Propinsi	Gubernur	Province	500 000 - 28 000 000
Kabupaten/Kotamadya	Bupati/Walikota	Regency/Municipality	50 000 - 1 000 000
Kecamatan	Gamat	Sub-District	5 000 - 100 000
Desa	Kepala Desa	Village	1 000 - 10 000
R.K.	Ketua R.K.)	Village Sub-Units	300 - 1 000
R.T.	Ketua R.T.)		
			50 - 500

Bearing in mind the above administrative scheme of the country, the cases which occurred since 1970 were distributed as follows:

Table 2. Target areas (infected 1970-1972)

Province	Total small-pox cases 1970-72	Kabupaten		Kecamatan		Desa	
		Total	Infected	Total	Infected	Total	Infected
Jawa Barat	4 681	24	23	377	172	3 784	443
Jakarta D.K.I.	134	5	5	27	10	220	13
Jawa Tengah	28	35	4	492	5	8 485	7
Sulawesi Selatan	3 172	23	18	169	66	1 163	214
Aceh D.I.	122	10	2	129	5	601	11
Sumatera Barat	23	14	5	80	5	559	6
Jambi	1 651	6	5	37	11	918	60
Lampung	100	4	2	58	4	1 124	10
Riau	548	6	2	67	6	721	25
Sumatera Selatan	220	10	5	85	12	1 692	35
Sumatera Utara	1 502	17	13	167	62	5 303	237
Total	12 181	154	84	1 688	358	24 570	1 061

(Note: Utara = North, Selatan = South, Barat = West, Tengah = Central)

3. METHODS AND MATERIALS

As no information was available when this activity was launched, about special assessment procedures in other areas which could be adapted to the Indonesian epidemiological situation, it was decided first to undertake a preliminary trial in a selected area; second, to conduct a wider and more formalized trial, and finally, with a final revised protocol, to undertake extensive assessment during the third and fourth quarters of 1972.

Although the basic lines of approach were the same throughout, the above explains why there is a more detailed tabulation of data resulting from studies during the III and IV Quarter 1972. The main points which guided this activity are listed below; additional details are given as a short explanatory narrative to the tables of results.

All field work was performed by teams consisting of one medical officer and one sanitarian from the Project HQ, one sanitarian of the Provincial Smallpox Section, and the Regency Smallpox Supervisor. Among their tasks was to spread the news by radio, newspapers, other mass media, of a recently approved reward (Rp 5000, approximately US \$ 12.00) for every reported smallpox case, which was confirmed by laboratory diagnosis.

3.1. Provincial level:

An official approach was made to local civil (Governor) and health (Health Inspector = IKES) authorities, to gain their cooperation and to obtain basic information such as method of recording and reporting of cases; number and category of local smallpox personnel; smallpox vaccine storage and flow; available supplies and equipment; etc. (the results of this ancillary side-survey are not yet published). All were queried, as to possible areas which might be suspected to harbour smallpox in addition to the previously infected ones.

3.2. Kabupaten (Regency) level:

An official approach was made to local civil (Bupati) and health (Regency Physician = DOKABU) authorities. Information sought was similar to that at provincial levels and information regarding recent scar survey results was obtained (the results of this survey are yet to be published). They were also queried about areas which, though not infected recently, should be added to the programmed ones and visited, on the basis of the following criteria (among others):

- (a) never reported suspected smallpox cases
- (b) seldom visited by the Regency physician or other health personnel
- (c) local health staff have frequently been changed
- (d) surrounding areas have previously been infected

3.3. Kecamatan (sub-district) level:

With the help of civil authorities at the Regency and Provincial level previously contacted, the Camat was asked to arrange a meeting with all the village chiefs of the sub-district. The Camat instructed the village chiefs of those villages scheduled to be visited, to arrange a meeting with all the Ketua RK/RT in their village. The local health centre was visited to check smallpox vaccine storage and flow; to check the number of varicella cases which were seen as outpatients, and to ensure that there was no confusion on their part between the reporting of smallpox and varicella.

3.4. Desa (village) level:

Meetings were held with the village chief, the Ketua RK/RT, and other key persons.

All notified suspect cases were checked. All blocks which had previously experienced smallpox cases were checked on the spot, as well as those RK/RT whose leader (Ketua) did not attend the above-mentioned meeting.

3.5. At all levels:

Various surveillance materials were distributed:

- WHO smallpox recognition card, plastic-covered
- WHO smallpox awareness poster, with the reward caption
- WHO smallpox/varicella differential diagnosis poster

Ministry of health official explanatory letter about the reward
Yellow postcard for reporting, to notify smallpox suspects
(coded as Smallpox Surveillance 1 = SS.1)
Checking form, to record the checking of any smallpox suspects (SS.4)
Monthly recapitulation of the above records (SS.5)
Record of epidemiological data for laboratory specimens (SS.6)

4. RESULTS

As mentioned above, the overall results are presented first, results of the III and IV Quarter, 1972 surveys are shown later.

4.1 Overall 1972 results

Table 4.1.1 Overall results, Kecamatan level, visits and meetings

PROVINCE	Total Kecamatan	Total Kecamatan located in infected Kabupaten (A)	Total Kecamatan infected 1970-72	Total and (%) of infected Kecamatan visited	Total non infected Kecamatan visited	Total Kecamatan visited and (%) of column (A)	Total meetings held	Total persons attending meetings
Jawa Barat	377	359	172	163 (95)	35	198 (55)	80	593
Jakarta D.K.I.	27	27	10	10 (100)	-	10 (37)	10	85
Jawa Tengah	492	68	5	5 (100)	1	6 (9)	5	85
Sulawesi Selatan	169	123	66	61 (92)	4	65 (53)	42	274
Aceh D.I.	129	18	5	5 (100)	8	13 (72)	9	39
Sumatera Barat	80	30	5	5 (100)	8	13 (43)	6	53
Jambi	37	30	11	11 (100)	5	16 (53)	7	64
Lampung	58	44	4	4 (100)	8	12 (27)	8	67
Riau	67	20	6	6 (100)	2	8 (40)	3	51
Sumatera Selatan	85	47	12	12 (100)	4	16 (34)	-	-
Sumatera Utara	167	150	62	62 (100)	1	63 (42)	66	831
Total	1 688	916	358	344 (96)	76	420 (46)	236	2 142

Notes: (a) Due to local terrain and weather conditions (seasonal rains) the programme in Sumatera Selatan was modified, with the deletion of the Kecamatan meeting

(b) Due to the large number of villages (kampung) in each Kecamatan in Sumatera Utara, sometimes more than one meeting was arranged in the same Kecamatan.

Table 4.1.2 Overall results, Desa level, visits

PROVINCE	Total Desa	Total Desa located in infected Kecamatan (A)	Total Desa infected 1970-72	Total and (%) of infected Desa visited	Total non infected Desa visited	Total Desa visited and (%) of column (A)
Jawa Barat	3 784	1 673	443	425 (96)	144	569 (34)
Jakarta D.K.I.	220	77	13	13 (100)	-	13 (17)
Jawa Tengah	8 485	88	7	7 (100)	2	9 (10)
Sulawesi Selatan	1 163	475	214	203 (95)	27	230 (48)
Aceh D.I.	601	18	11	11 (100)	2	13 (72)
Sumatera Barat	559	33	6	6 (100)	24	30 (90)
Jambi	918	275	60	59 (98)	23	82 (30)
Lampung	1 124	68	10	10 (100)	35	45 (66)
Riau	721	105	25	25 (100)	32	57 (54)
Sumatera Selatan	1 692	443	35	35 (100)	25	60 (14)
Sumatera Utara	5 303	2 156	237	204 (86)	13	217 (92)
Total	24 570	5 411	1 061	998 (94)	327	1 325 (25)

Table 4.1.3 Overall results, Desa level, meetings

PROVINCE	Total Desa visited (A)	Total meetings held	R.K.		R.T.		Total persons attending
			Total in column (A)	Attending and % of total	Total in column (A)	Attending and % of total	
Jawa Barat	569	260	1 822	1 035 (57)	9 535	2 879 (30)	7 197
Jakarta D.K.I.	13	13	81	70 (86)	1 232	491 (40)	846
Jawa Tengah	9	(a)	(b)	-	(c)	-	21
Sulawesi Selatan	230	144	773	455 (59)	3 386	1 183 (35)	2 753
Aceh D.I.	13	11	(b)	-	(c)	(c)	367
Sumatera Barat	30	6	38	35 (92)	166	151 (91)	480
Jambi	82	(c)	(c)	(c)	(c)	(c)	-
Lampung	45	12	71	33 (46)	(c)	(c)	87
Riau	57	18	86	60 (70)	256	150 (59)	321
Sumatera Selatan	60	(c)	(c)	(c)	(c)	(c)	-
Sumatera Utara	217	(c)	(c)	(c)	(c)	(c)	-
Total	1 325	464	2 871	1 688 (59)	14 575	4 854 (33)	12 072

Notes: (a) Meetings could not be held due to local contingent reasons.

(b) Data missing on field protocols.

(c) Meetings were not held, as there is no further administrative subdivision of the village in this province.

Table 4.1.4 Overall results, health centres visits (see above 3.3) and infected blocks spot checking (see above 3.4)

PROVINCE	Health Centres Visits				Infected Blocks Spot Checked				
	Total visited (A)	H.C. staff met	Smallpox vaccine storage		Varicella cases on record 1972 to date	Total	Schools visited	Key persons met on the spot	Other persons met on the spot
			Refri-gera-tor	% of column (A)					
Jawa Barat	121	821	8	7	541	461	43	477	5 382
Jakarta D.K.I.	10	37	10	100	-	10	-	15	183
Jawa Tengah	5	26	2	40	8	9	-	49	16
Sulawesi Selatan	37	97	1	3	3	213	37	297	2 289
Aceh D.I.	19	23	5	26	-	33	-	32	455
Sumatera Barat	3	19	-	-	-	15	7	29	360
Jambi	14	NA	6	43	NA	90	2	55	1 746
Lampung	11	49	1	9	30	58	3	38	528
Riau	5	38	1	20	-	13	4	11	53
Sumatera Selatan	8	24	3	38	1	61	1	31	NA
Sumatera Utara	45	253	4	9	138	204	-	2	75
Total	278	1 387	41	15	721	1 167	97	1 036	11 087

Table 4.1.5 Overall results, reports received by the Surveillance teams during this activity

PROVINCE	Total suspect cases reported	Reported during meetings	Received from			Diagnosis		Specimens collected
			Health personnel	Village key persons	Others	Varicella and (%) of total	Other	
Jawa Barat	392	162	26	74	292	288 (52)	262	103
Jakarta D.K.I.	1	1	-	1	-	3 (100)	-	-
Jawa Tengah	3	3	1	2	-	7 (100)	-	1
Sulawesi Selatan	139	67	6	53	80	145 (61)	93	52
Aceh D.I.	17	8	3	10	4	22 (82)	5	2
Sumatera Barat	1	-	1	-	-	5 (100)	-	2
Jambi	23	3	2	14	7	46 (89)	6	2
Lampung	14	4	3	6	5	33 (85)	6	4
Riau	12	8	-	6	6	30 (97)	1	6
Sumatera Selatan	19	-	10	6	3	37 (79)	10	7
Sumatera Utara	29	9	1	13	15	13 (30)	31	1
Total	650	265	53	185	412	629 (60)	414	180

4.2 Results of field activities in the III and IV Quarter 1972 can be tabulated in a more detailed way, as by the end of June 1972, the field protocol forms had been finalized into a standard format and in general the recording was improved. Specific points of interest are shown in the following tables. Cooperation between local civil authorities (at all levels) and health personnel was excellent and this accounted for much of the success achieved. It should be noted that no figures are shown for Sumatera Selatan, as this area had been finished before July 1972. In some provinces (Jambi, Sumatera Utara) there is no further administrative subdivision of the desa, therefore in these cases no figures are shown.

Table 4.2.1 III/IV Quarter, Kecamatan level, visits and meetings

PROVINCE	Total Kecamatan visited	Desa in Kecamatan visited (A)	Kepala Desa attending, and (%) of column (A)	Non infected Kecamatan visited	Kepala Desa of non infected Desa attending
Jawa Barat	95	1 065	593 (56)	12	456
Jakarta D.K.I.	10	77	68 (88)	-	55
Jawa Tengah	6	105	85 (81)	1	78
Sulawesi Selatan	46	336	250 (74)	2	130
Aceh D.I.	13	22	21 (96)	8	10
Sumatera Barat	13	57	52 (91)	8	46
Jambi	8	263	64 (24)	2	55
Lampung	12	137	67 (49)	8	61
Riau	3	123	51 (42)	-	33
Sumatera Utara	59	1 947	831 (43)	-	712
Total	265	4 132	2 082 (50)	41	1 636

Table 4.2.2 III/IV Quarter, Kecamatan level, visits and meetings in the infected areas

PROVINCE	Infected Kecamatan visited	Meetings in infected Kecamatan	Infected Desa visited (A)	Kepala Desa of infected Desa attending, and (%) of column (A)
Jawa Barat	83	74	188	137 (73)
Jakarta D.K.I.	10	10	13	13 (100)
Jawa Tengah	5	5	7	7 (100)
Sulawesi Selatan	44	37	140	120 (86)
Aceh D.I.	5	5	11	11 (100)
Sumatera Barat	5	5	6	6 (100)
Jambi	6	6	26	9 (35)
Lampung	4	4	10	6 (60)
Riau	3	3	18	18 (100)
Sumatera Utara	59	59	180	119 (66)
Total	224	208	599	446 (74)

Table 4.2.3 III/IV Quarter, Desa level, visits and meetings

PROVINCE	Desa visited	Meetings in Desa visited	Infected Desa visited	Meetings infected in Desa	Non infected Desa visited	Meetings non infected in Desa
Jawa Barat	251	223	188	188	63	35
Jakarta D.K.I.	13	13	13	13	-	-
Jawa Tengah	9	-	7	-	2	-
Sulawesi Selatan	154	125	140	125	14	-
Aceh D.I.	13	11	11	11	2	-
Sumatera Barat	30	6	6	6	24	-
Jambi	32	-	26	-	6	-
Lampung	45	12	10	10	35	2
Riau	21	18	18	18	3	-
Sumatera Utara	193	-	180	-	13	-
Total	761	408	599	371	162	37

Table 4.2.4 III/IV Quarter, Desa level, RK/RT attendance in infected Desa

PROVINCE	Desa infected where meetings were held (A)	R.K.		R.T.	
		Total in column (A)	Attending and (%)	Total in column (A)	Attending and (%)
Jawa Barat	188	1 585	830 (52)	7 918	2 538 (32)
Jakarta D.K.I.	13	80	70 (86)	1 232	491 (40)
Sulawesi Selatan	125	911	553 (61)	3 938	1 451 (38)
Aceh D.I.	11	97	69 (71)	-	-
Sumatera Barat	6	38	35 (92)	166	151 (91)
Lampung	10	69	31 (45)	-	-
Riau	18	86	60 (70)	256	150 (59)
Total	371	2 866	1 648 (58)	13 510	4 781 (35)

Table 4.2.5 III/IV Quarter, Desa level, RK/RT attendance in non-infected area

PROVINCE	Non infected Desa where meetings were held (A)	R.K.		R.T.	
		Total in column (A)	Attending and (%)	Total in column (A)	Attending and (%)
Jawa Barat	35	225	130 (58)	1 366	403 (30)
Lampung	2	2	2 (100)	-	-
Total	37	227	132 (58)	1 366	403 (30)

5. CONCLUSIONS

Out of 650 reports of smallpox suspects, 412 (or 63.3%) were received from the general population. Varicella was the most common finding among the 1 043 patients checked (on the basis of the 650 reports): 629 chickenpox cases (or 60.3%).

The cooperation of local civil authorities (at all levels) proved to be gratifying: 185 reports (or 28.5%) came from village leaders, whose interest in this programme was also shown by the fact that 50.4% of village chiefs attended the meetings at the Kecamatan level; 70.4% of village chiefs from previously infected villages attended. Contact with leaders of the smaller village subdivisions was also generally successful: 58.8% of chiefs of RK's attended and 33.3% of the chiefs of RT's.

In brief, during a period of nine months, 1 325 villages were visited, 696 meetings were held, 1 167 clusters of previously infected houses were checked on the spot, 278 health centres were visited and involved, 97 schools close to infected spots were checked, 180 laboratory specimens were collected and 27 724 people in various positions (health personnel, civil authorities, school teachers, religious leaders, etc.) were approached and questioned regarding possible smallpox cases, but none was found.