

# Mass Immunization Campaign in El Salvador, 1969

*Evaluation of receptivity and recommendation for future campaigns*

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**N**EARLY 1 million persons in the Americas each year are afflicted with diseases that could have been prevented with existing vaccines and mass immunization technology (1). Estimates were obtained by summing yearly reported cases of diphtheria, typhoid, leprosy, measles, poliomyelitis, smallpox, pertussis, tetanus, and typhus. Since only a fraction of these cases are ever reported to health authorities, the unnecessary

deaths, permanent debilitations, and concomitant economic, social, and psychological costs to the victims as well as to the developing nations cannot be overstated.

Fortunately, advances in modern medical technology have been utilized effectively in reducing the severity of the problem and promise greater success in restraining and even eradicating the spread of communicable diseases. One recent such development is the use of jet injector guns for inoculations to immunize against tuberculosis, smallpox, poliomyelitis, measles, pertussis, typhoid, tetanus, diphtheria, and other diseases throughout the world. By reducing the pain from injections and the time-consuming requirements for sterilization, jet injection provides a tremendous timesaving advantage over needles and syringes. Using one instrument a single person can inoculate 500 to 1,000 persons per hour as compared with 300 persons per day using needles and syringes under similar conditions. A team of three or four can immunize a city of 30,000 people in 1 day against an otherwise incipient epidemic (2).

In many social environments, however, a considerable gap exists between what is scientifically and technologically available to improve standards of living and that which prevailing conditions permit. Public health implementation of mass immu-

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nization is no exception. Commenting on its international smallpox eradication campaign, the World Health Organization has indicated: "No insurmountable technical problems have been evident. Difficulties have resulted from lack of necessary funds for personal vaccines and supplies, or from *failures in the conduct of the vaccination campaign*" (3).

Coordinating communication strategies with immunization program planning is crucial to the conduct of an immunization campaign. With the rapid-fire capacity of modern mass immunization techniques, the most sensible way to administer injections is to attract people to immunization centers. Effective communications systems must therefore be developed to disseminate information and to persuade people to visit inoculation centers. Numerous worldwide experiences have illustrated that problems can arise in disseminating this information in rural areas where substantial segments of the population are illiterate, have little access to mass media, and live in near isolation. For example, a recent rural immunization program in a Central American country revealed community turnouts for immunizations that varied from 80 percent of the target population to as little as 15 percent (4).

An apparent need exists to conduct descriptive research about the communication processes that evolve during mass immunization campaigns. Information can be gleaned from such studies to provide prescriptive suggestions for planning communication strategies in mass immunization and similar public health programs. The effectiveness of similar studies conducted in the United States (5-13) demonstrates the practical and theoretical need to undertake such work in the developing world.

Our purpose is (a) to ascertain the underlying social and personal factors, including differential rates of receptivity, to a mass immunization campaign conducted in Central America and (b) to suggest strategies in planning and executing future campaigns of similar nature.

During the month of November 1969, a mass immunization campaign with jet injectors was conducted in two western regions of El Salvador, Santa Ana, and Ahuachapán. The objective was to immunize the population against poliomyelitis, tuberculosis, and measles. The vaccines used consisted of oral poliomyelitis vaccine for children from age 3 months to 5 years, BCG (bacille Calmette Guérin) vaccine for persons 5 years and

older, and measles vaccine for children from age 9 months to 5 years.

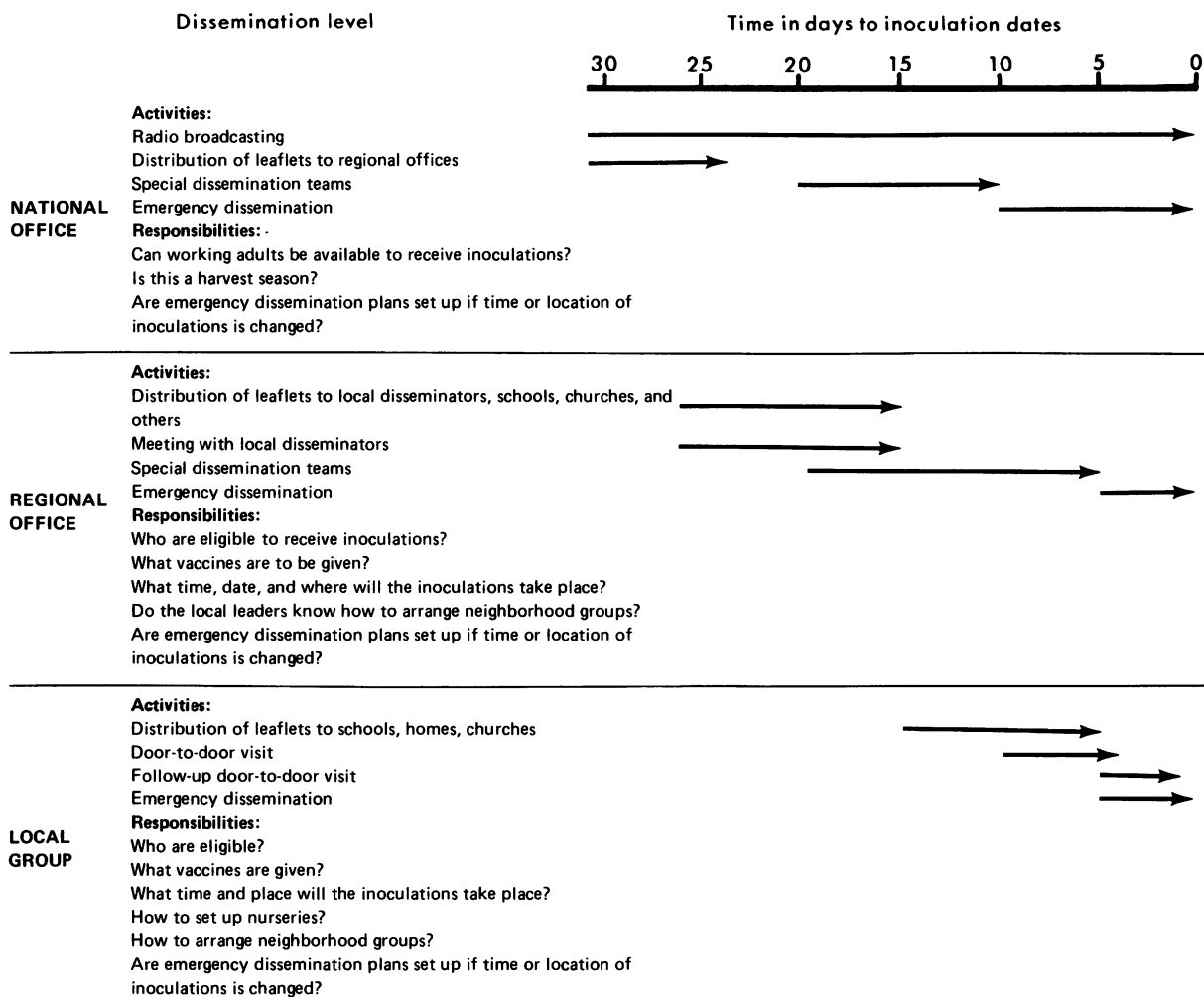
The campaign, in part, resulted from a recent outbreak of poliomyelitis epidemics in neighboring Costa Rica and Nicaragua. Ten days before the campaign started, a well-organized, regionwide, mass-media dissemination program was initiated. Radio broadcasts informing the public about the upcoming campaign began November 1 and continued to and throughout the campaign dates (November 10-20). Leaflets announcing the campaign and the vaccines to be used were distributed to the public (starting November 3) through regional and local officials and in schools. Beginning October 30, information was disseminated by loudspeakers on automobiles that circulated through city streets and the countryside.

### The Study

Personal interviews were conducted with housewives in all households in five selected rural communities a day or two after the immunization team had visited the area.

*Selection of communities.* Communities were selected (a) if they were small enough (about 100 households or less) so that intensive interviews could be completed for each community in 1 day, (b) if they represented different levels of development (from most isolated and primitive to relatively well-to-do and modernized on such indexes as transportation surfaces and facilities, house construction material, availability of electricity and running water, education facilities, extent of commerce as compared to farming or day labor, and so on), and (c) if they were visited by the immunization teams on the first 3 days of the campaign so that recollections about activities leading to the immunization could be elicited with ease from the respondents in the interviews. The communities selected for study were La Montañitas, El Portillo, San Lorenzo, Santo Tomás, and Las Casitas. The first three communities are in the Department (Province) of Ahuachapán and the last two in Santa Ana.

La Montañitas, about 3 kilometers off the Pan-American Highway, is an isolated community in poverty. El Portillo is separated by a small river from Guatemala and located 1 mile north of San Lorenzo—the most developed community in our sample. San Lorenzo has bus services (12 daily trips to Santa Ana), electricity, drinkable water, and a town square occupied by business stores, a mayor's office, and a cathedral.



### Recommended dissemination timetable and responsibility chart

Santo Tomás, about 2 kilometers, and Las Casitas, about 4 kilometers off a highway, have a great deal in common—both are small, have streams running across the town, and possess electricity and drinkable water services. Las Casitas, in addition, has a town square with a public washing station, a school, and a few stores.

On the scale of development, San Lorenzo is on the upper end and La Montañitas on the lower end, with the other three in the middle. Roughly, the order might be: San Lorenzo, Las Casitas, Santo Tomás, El Portillo, and La Montañitas. Some characteristics of these communities appear in table 1.

*Selection and training of interviewers.* The seven interviewers consisted of two public health inspectors from the department of Santa Ana, three college students from San Salvador (one postgraduate and two juniors) who majored in

psychology, one bilingual American graduate student who majored in communication, and a research assistant from the health department of the Organization of Central American States. The selection was made on the basis of familiarity with the public health programs, interest in social research, and competence as interviewers. On the first day of the immunization campaign, the day before initiation of our study, these persons conducted interviews at several immunization stations under the supervision of the investigators. Potential problems arising from the content of the questionnaires and the interviewing technique were discussed and resolved during the training sessions.

*Construction of questionnaire.* Initially, a questionnaire was constructed in English; it represented further development of a questionnaire used in the Honduras study (4). The question-

naire was revised and items added, and then, with the interviewers' assistance, was translated into Spanish.

*Fieldwork.* During a 4-day period, the survey team of investigators and interviewers visited the five communities. Upon arriving at each community, the team members familiarized themselves with the physical features of the community and drew a detailed map of the household locations, assigning each an identification number. In two communities, El Portillo and Santo Tomás, maps and detailed demographic data collected in the past few years by the regional health office for

installing drinkable water facilities, were made available to the team.

An average interview took 20 minutes and was conducted inside the house whenever possible. The interviewer introduced himself as a survey team member from the public health office. He asked the housewife if she would be willing to respond to a few questions but did not disclose the precise objective of the survey. In a few instances the housewife demanded more information about the kind of questions she was to answer, but no refusal was encountered in the entire survey. The interview success rate, in terms of all occu-

**Table 1. General and immunization characteristics of 5 communities of El Salvador, November 1969**

Community	Number of occupied households	Number of school grades <sup>1</sup>	Electric service	Drinkable water service	Bus service	Kilometers to immunization station	Date of immunization	Date of interview	Interview success	
									Number of households	Percent of occupied households
La Montañitas.....	74	1	No	No	No	2	10	11	60	81
El Portillo.....	95	6	Yes	No	Yes <sup>2</sup>	1	11	12	77	81
San Lorenzo.....	101	6	Yes	Yes	Yes	( <sup>3</sup> )	11	13	83	82
Santo Tomás.....	63	6	Yes	Yes	No	4	12	14	52	83
Las Casitas.....	66	3	Yes	Yes	No	6	12	14	55	83

<sup>1</sup> Each town has 1 school except El Portillo, whose school-aged children are enrolled in the San Lorenzo school, about 1 kilometer away.

<sup>2</sup> El Portillo does not have any bus service; its residents use the bus service at San Lorenzo.

<sup>3</sup> In town.

**Table 2. Characteristics of respondents in 5 communities of El Salvador, November 1969**

Characteristics	Percent in community					
	San Lorenzo (N=83)	Santo Tomás (N=52)	El Portillo (N=77)	Las Casitas (N=55)	La Montañitas (N=60)	All 5 communities (N=327)
<b>Personal background:</b>						
Median age (years).....	38	39	39	40	37	39
Literate.....	75	50	48	55	25	52
Lived in another town.....	45	56	38	45	35	43
Civil service marriage.....	54	54	57	69	20	51
<b>Family structure:</b>						
4 or fewer living children.....	64	46	49	49	67	56
6 or fewer persons in household.....	67	52	65	62	68	64
Husband day laborer.....	31	40	48	27	83	46
Husband farmer.....	25	37	38	53	3	31
Husband skilled or professional.....	26	15	8	6	5	13
Husband with other occupation.....	17	8	6	15	8	11
<b>Economic status:</b>						
Land ownership.....	22	35	29	38	12	26
House floor of brick or cement.....	46	29	16	22	18	27
<b>Communication behavior:</b>						
Radio ownership.....	66	48	48	64	38	54
Radio listening the day before.....	40	37	27	44	23	34
Newspaper readership last week.....	34	12	7	7	5	14
Visits to friends last week.....	35	50	36	47	17	36
Visits from friends last week.....	43	48	44	40	28	41
Naming of friends in community.....	81	88	84	89	75	83

### Personal interviewing in San Lorenzo



pied households, was about 82 percent. In three attempts, the respondents in the other 18 percent of the occupied households could not be located. To a great extent the success of the campaign must be attributed to the patience, good manners, and persistence demonstrated by the interviewers throughout the fieldwork.

### Characteristics of Respondents

Most indicators of the respondents' socioeconomic status suggested that La Montañitas was the poorest of the five communities, followed in order by El Portillo, Santo Tomás, Las Casitas, and San Lorenzo.

The median age of the respondents (39 years)



Interviewers discuss problems with San Lorenzo's town secretary (standing, facing camera)

was consistent in all five communities (table 2). Fifty-two percent of the respondents had some schooling. The literate percentage varied from 25 percent in La Montañitas to 75 percent in San Lorenzo. Two in five (43 percent) of the respondents had lived in other towns—an index of physical mobility—the percentage again varying from 35 percent in La Montañitas to 56 percent in Santo Tomás. Approximately 2 percent of the respondents were not married, 45 percent were married by common union, 51 percent by civil service, and another 1 percent were widowed. The percentage of civil service marriages ranged from 20 percent in La Montañitas to 69 percent in Las Casitas. The respondents averaged about four living children each. The average household numbered between five and six persons. The occupations of the respondents' husbands differed across communities. In La Montañitas, 83 percent of the respondents' husbands were day laborers as compared with an approximate 30 percent of the respondents' spouses in San Lorenzo and Las Casitas. Only 5 percent of the respondents' husbands in La Montañitas were skilled or professional workers as contrasted with 26 percent of the respondents' husbands in San Lorenzo.

Two indicators of the respondents' economic status, land ownership and type of house floor, also suggested that La Montañitas was the poorest among the five communities.

Communication behavior indexes showed again that the respondents in La Montañitas were low both in exposure to mass media (radio and newspaper) and in interpersonal interactions (visits

and friends in the community). San Lorenzo respondents were highest in exposure to mass media, while respondents in Santo Tomás and Las Casitas showed greater intensity in interpersonal communications.

The same general trend existed among the five communities on health perception, knowledge, and practices. As shown in table 3, more San Lorenzo respondents than those in other communities perceived their own health conditions as "excellent" or "good." Not only did fewer respondents in La Montañitas perceive their health conditions as "excellent" or "good," but they also indicated least use of hospital or clinic services, least knowledge of birth control methods, least understanding of the purpose of the vaccines (either in general or of the particular vaccines used in the latest immunization campaign), and least likelihood of naming other persons from whom they could seek advice on health problems.

The persistently poorer characteristics of respondents in La Montañitas demonstrated the phenomenon of the vicious cycle of poverty—that poor conditions perpetuate one another. The poor health conditions of the respondents, for example, were not helped by the unavailability of hospital or clinic services. The closest services were in a city more than 10 kilometers away. It soon became evident that the vicious cycle also applied to receptivity to the immunization campaign.

## Results

*Becoming aware of the campaign.* Among the respondents, 93 percent were aware of the immunization campaign. Again, La Montañitas had the lowest percentage of "knowers" (83 percent) among the five communities. While the overwhelming majority of respondents in the other four communities became aware of the campaign through local disseminators (such as announcers, mayors, and others), the respondents in La Montañitas were more likely to have heard about the campaign through mass media (radio announcements and leaflets) and friends. The knowers in La Montañitas also became aware of the program relatively later than those in other communities. Only 2 percent of the respondents in La Montañitas became aware of the campaign 6 days or more before the day of inoculations as compared with 21 to 46 percent in other communities (table 4).

One-fourth (28 percent) of the respondents indicated that they sought additional information about the campaign after they heard about it, and

more than one-third (35 percent) claimed to have relayed information about the campaign to others.

In summation, the information campaign was a relatively successful one since 93 percent of the respondents were informed about the program. In the more isolated and poorer areas such as La Montañitas, however, the diffusion was less effective. The biggest problem was lack of coordination between the national and local levels of disseminators. While mass media, such as radio broadcasting and leaflet distribution, reached about 30 percent of the respondents in all areas, followup by the local disseminators succeeded in the more centrally located and urbanized communities but failed miserably in the isolated and poor areas.

*Receptivity to inoculations.* Three in five (62 percent) of the respondents indicated that some members of their families received inoculations (table 4). More children (55 percent) were receivers than women (43 percent), respondents (36 percent), or men (22 percent). The following tabulation shows the reasons given why some family members were not inoculated:

<i>Reason given</i>	<i>Percent of respondents</i>
<i>Men (N = 176):</i>	
Working .....	51
Not at home .....	14
Sick .....	9
Inoculated previously .....	6
Did not want to go .....	6
<i>Self (N = 157):</i>	
Sick .....	25
Inoculated previously .....	11
Did not want to go .....	10
Working .....	9
Taking care of home .....	8
Not home .....	6
Did not go at right time .....	6
Could not go .....	4
Did not go to right place .....	3
Too old .....	3
On school excursion .....	3
<i>Other women (N = 49):</i>	
Working .....	24
Sick .....	20
Inoculated previously .....	16
Not home .....	14
<i>Children (N = 90):</i>	
Too young .....	26
Nobody took them .....	19
Inoculated previously .....	18
Not home .....	10
Working .....	6
Did not want to go .....	6

**Table 3. Health perception, knowledge, and practices of respondents, El Salvador, November 1969**

Health-related characteristics	Percent in community					All 5 communities (N=327)
	San Lorenzo (N=83)	Santo Tomás (N=52)	El Portillo (N=77)	Las Casitas (N=55)	La Montañitas (N=60)	
Perceived health condition as excellent or good.....	53	48	40	47	32	44
Used hospital or clinic services.....	42	42	64	40	35	46
Had knowledge of birth control methods.....	39	46	16	55	10	32
Understood about vaccines.....	76	69	64	54	52	68
Named persons as health advisors.....	87	85	82	91	73	84

In short, most men missed inoculations because they were at work, most women because they were physically unable (sick, working, taking care of the house) to do so or because they had been vaccinated before, and most children were either considered too young, had not been taken to where inoculations were given, or had received inoculations before.

*The nonreceivers.* Reasons given by respondents when explaining why they did not receive vaccinations may have concealed other factors that actually contributed to their reluctance to participate. For example, the percentage of respondents who indicated sickness as the reason seems abnormally high (25 percent). To ascertain the real factors, we compared the receiving respondents and the nonreceiving respondents—those who did not know about the immunization

program and those who knew about it but did not receive inoculations.

The nonreceiver category excluded 18 respondents who claimed to have received shots before. A separate comparative analysis of the 18 and the other nonreceivers showed no significant differences. The receivers, nonreceivers, and nonknowers were compared (table 5) for (a) personal background, (b) family structure, (c) economic status, (d) communication behavior, and (e) health-related perception, knowledge, and practice. The 22 nonknowers, an extremely small number, were presented mainly to demonstrate their many similarities with the nonreceivers.

Nonreceivers, compared with receivers, tended to be much older, to be less educated, and to show less physical mobility (had not lived in other towns). In family structure the nonreceivers

**Table 4. Initial awareness and receptivity of inoculations, El Salvador, November 1969**

Awareness and receptivity	Percent in community					All 5 communities
	San Lorenzo	Santo Tomás	El Portillo	Las Casitas	La Montañitas	
Knowers.....	96	98	96	91	83	93
Source of information:						
Mass media.....	31	29	26	29	30	29
Local disseminators.....	71	94	70	78	22	67
Friends and others.....	5	6	5	5	28	10
Family members.....	4	4	5	0	8	4
Other sources.....	6	2	0	2	3	2
Time of awareness:						
Day of inoculation.....	4	4	4	0	20	6
1 day before.....	25	23	57	7	38	32
2-5 days before.....	12	46	10	42	20	24
6 days or more before.....	46	21	25	38	2	28
Unspecified.....	10	4	0	4	3	3
Obtained additional information.....	34	27	33	16	28	28
Relayed information.....	41	42	35	31	25	35
Receptivity of inoculation:						
Household members.....	90	71	75	42	18	62
Men.....	36	33	12	18	8	22
Women.....	67	56	51	24	8	43
Children.....	67	69	68	31	15	55
Self.....	58	48	42	16	8	36

tended to have fewer living children, although they were older, and to be wives of day laborers. School-aged children could have served as important disseminators, bringing home messages from teachers and the leaflets distributed in school. The nonreceivers, however, were not disadvantaged since the number of school-aged children in the households was not significantly different between the receiver and the nonreceiver groups.

Personal background and family structure showed rather that nonreceivers were disadvantaged on the basis of age, education, mobility, and spouses' occupational status, all of which are important indicators on the modernity-tradition scale. The nonreceivers also were not deprived of livestock, land ownership, or house construction. They did show less likelihood of living in better houses with brick, tile, or cement floors.

Nonreceivers, furthermore, suffered in communication activities as compared with receivers not because the media were not available to them—the data showed about equal proportions of receivers and nonreceivers having radio sets—but because a significant difference was found in the frequency of listening to the radio. Nonreceivers showed much less tendency than the receivers to listen to the radio the day before the survey. As also expected from the differential in educational status, significantly fewer nonreceivers than receivers read newspapers during the week before the survey. The nonreceivers also had less interpersonal communication. Asked if they had either visited or been visited by friends during the past week, far fewer nonreceivers answered affirmatively.

The nonreceivers differed from the receivers too, in their general health perception, knowledge, and practices. Although far fewer nonreceivers perceived their health conditions as "excellent" or "good," fewer of them indicated use of hospital or clinic services as compared with the receivers' group. In addition, fewer knew the purpose of vaccinations, were informed in any birth control methods, or knew anyone from whom they could seek advice on health problems. These statistics demonstrated once again that the vicious cycle of poverty extends to the area of health. The poorer people and communities also have poorer health services, knowledge, and practices.

These general characteristics show that the respondents' backgrounds and practices (personal, family, economic, communication, and health) had much to do with whether they received inocu-

lations. We examined their specific behavior concerning the immunization campaign (table 6). Consistent with the general analysis, the nonreceivers tended to be late knowers. Half of them, as compared with about one-third of the receivers, initially heard about the program only the day before or during the day of inoculations. Although local disseminators and mass media represented the major informers for both the receivers and the nonreceivers, the nonreceivers were less likely to be exposed to either. While many receivers heard about the campaign from family members, the nonreceivers tended to be informed by friends.

Twice as many nonreceivers as receivers were unaware of what specific vaccines were offered, yet they demonstrated less tendency than the receivers to seek additional information about the

**Table 5. Comparison of inoculation receivers, nonreceivers, and nonknowers, El Salvador, November 1969**

Characteristics	Percent of respondents		
	Receivers (N=119)	Nonreceivers <sup>1</sup> (N=168)	Nonknowers (N=22)
<b>Personal background:</b>			
Median age (years).....	32	42	40
Literate.....	66	45	32
Lived in another town.....	54	35	36
<b>Family structure:</b>			
4 or fewer living children...	64	54	41
6 or fewer persons in household.....	64	62	68
School-aged children in house.....	65	60	46
Husband day laborer.....	38	54	68
Husband skilled or professional.....	21	5	5
<b>Economic status:</b>			
Land ownership.....	23	31	14
Livestock ownership.....	70	70	64
House floor of brick or cement.....	32	26	23
<b>Communication behavior:</b>			
Radio ownership.....	56	57	23
Radio listening day before...	45	28	9
Newspaper readership last week.....	24	9	0
Visits from friends last week.....	50	36	38
<b>Health-related perception, knowledge, and practices:</b>			
Self-perceived health condition, excellent or good....	61	36	23
Use of hospital or clinic....	55	39	41
Knowledge of vaccination....	76	61	46
Knowledge of birth control..	42	23	18
Naming health advisors in community.....	88	79	82

<sup>1</sup> Of the 186 nonreceivers, 18 indicated that they had received inoculations before; thus only 168 respondents were included in this analysis.



**Table 6. Comparison of inoculation receivers and nonreceivers on activities related to the campaign, El Salvador, November 1969**

Characteristic	Percent of respondents	
	Receivers (N=119)	Nonreceivers (N=168)
Time of initial awareness:		
Day of inoculation.....	3	10
1 day before.....	29	40
2-5 days before.....	25	24
6 days or more before.....	36	24
Unspecified.....	7	2
Source of initial awareness: <sup>1</sup>		
Mass media (radio, leaflet).....	38	27
Local disseminators.....	77	67
Friends and other persons.....	4	14
Family members.....	25	7
Egocentric (observed, overheard).....	0	<1
Other.....	3	2
Knowledge of vaccines given:		
None.....	14	29
1 vaccine.....	5	11
2-3 vaccines.....	81	60
Obtaining additional information.....	40	25
Relayed information about program:		
No.....	54	68
Yes, relayed information only.....	17	16
Yes, also recommended the program.....	29	17
Unspecified.....	0	<1

<sup>1</sup> Each respondent may name two sources; thus the summed percentages for each group exceeds 100 percent.

program. And fewer nonreceivers, as expected, relayed information to others about the campaign. For those who did, only about half of the nonreceivers recommended the campaign to others, whereas more than 60 percent of the receivers recommended it. The nonreceivers consistently showed less knowledge and activity concerning the campaign than the receivers.

### Implications and Recommendations

Applying what the data have shown to improving future dissemination strategies in mass immunization campaigns is most difficult. The difficulty stems from several sources: (a) usually, we are not sure to what extent the data can be generalized for other communities, countries, and continents, (b) statistical data do not permit firm statements about cause-effect relationships among the characteristics, and (c) applying research findings to practical utilizations can be dangerous if other factors, either known or unknown to the researchers and the practitioners, are not considered simultaneously.

We believe, however, that our data represent many rural communities in Central America and

probably in other continents as well, that the differences found among persons and communities are extremely consistent, and that the time sequences of the events are quite clear in terms of the occurrences of the activities in the immunization campaign. In proposing the following recommendations, we caution that other factors not considered in this survey may also have important bearings on a successful immunization campaign.

1. Planning and executing communication strategies should be undertaken in each nation at three levels: national, regional, and local. Each level has varying capacities and should perform various functions. No level should leave the execution of communications campaigns to another level. Participation at all levels is a necessary condition for success.

2. Information about a campaign on the national level should be disseminated at least 4 weeks before the inoculations are started. This allows sufficient time for the information to filter through regional and local levels to potential receivers. Radio broadcasting and leaflets are effective means of such dissemination. The leaflets should be channeled through schools and school-aged children as well as distributed door to door to adults.

3. The working hours of eligible adults should be considered when the immunization schedule is being planned. Inoculations for them should be concentrated on weekends and extended to early evening hours. This scheduling is especially crucial if the immunization campaign is conducted during the harvest season.

4. Supervision of local dissemination through mayors, churches, schools, and others should be strongly emphasized. The most crucial element in the dissemination process is the door-to-door canvass by the mayor or an announcer about a week before the inoculation team arrives. To mobilize the local disseminators, regional directors of the immunization campaign should be held responsible for reaching all communities in the region and for giving detailed instructions to local leaders as to (a) the types of vaccines to be used, (b) the date and time of vaccinations for each community, and (c) potential receivers (sex, age, and so forth).

5. Local disseminators should be instructed to make a door-to-door canvass in each community no later than 7 days before the day of inoculations. Local dissemination should continue up to the day of inoculations. During the 3 days before

the inoculations, a second door-to-door canvass should be made by the local disseminators. During each visit the potential receivers should be sought out and precise instructions given as to the time and place of the inoculations and the vaccines to be used. If no adults are home at the time, a leaflet should be left in the house and a second visit made during the early evening hours, when the likelihood of an adult's presence at home is increased. The types of vaccines should be made clear so that those who have been inoculated with different vaccines know that they are eligible.

6. The local disseminators, especially from the mayor's office, are responsible for making necessary arrangements during the day of inoculations for taking care of children and the elderly as well as any others who are not eligible to receive the inoculations. Neighborhood groups should be organized so that families can take turns going to the inoculation station. The arrangements can be made while the local disseminators are making the door-to-door canvass.

7. During the dissemination campaign, emphasis should be given to remote, isolated, and poor communities where ineffective dissemination is most likely to occur. While regional directors concentrate on total dissemination in the region, special dissemination teams composed of national and regional health offices should be sent to the communities where the health needs of the poor and illiterate farming populations are insufficiently serviced. Upon arriving in each community, the team should consult with local leaders regarding the vaccines and the time and place of inoculations, and should assist the local leaders in setting up canvassing plans and neighborhood group arrangements.

8. When a last-minute change occurs in time of the inoculation team's arrival, place of inoculations, and so on, the local disseminators should be instructed immediately to inform all potential receivers, and a bulletin should be distributed to school children and persons throughout the community. In the event that the time of inoculation is postponed, a local disseminator should be stationed at the inoculation station during the originally scheduled hours so that correct information can be relayed to those who visit. The time sequence of a dissemination campaign is shown in the chart on page 1114.

9. A final suggestion: We propose that a pro-

gram handbook of immunization dissemination could and should be constructed by health officers in each country or region, providing precise information and instructions to the national, regional, and local personnel for carrying out a successful dissemination campaign for a mass immunization program. For example, the Organization of Central American States is currently contemplating the construction of such a handbook, to be used in all Central American States in future immunization programs.

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