

Using Workers from "Hard-Core" Areas to Increase Immunization Levels

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THE OBJECTIVE of this project was to determine whether indigenous personnel, that is, persons living and working in areas of low socioeconomic levels could be used effectively in raising immunization levels of the population in these areas. Recent public health literature has indicated that traditional public health approaches and personnel generally have encountered considerable difficulty in attempting to raise immunization levels in areas of low socioeconomic level throughout the nation. Since many primary public health problems are concentrated in these areas, we believed that different approaches to solving them might prove to be promising.

Indigenous personnel have been used in other projects dealing with persons living in hard-core areas. Pioneering work (1-6) should have shown the effectiveness of using these persons,

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but such is not the case. Public health literature is filled with statements and articles pointing to the difficulty of reaching residents of areas of low socioeconomic levels with immunization programs (7-16).

Although the need to use indigenous personnel in immunization programs is acutely evident, the literature contains few quantitative studies. Polk (17) described the use of health workers in a door-to-door campaign to encourage people to come out and be immunized in mobile units, but no description is given as to the types of health workers used. Denson (18) described a program using the personal contact approach to immunization but indicated, "The State Merit System required that all persons filling the position of public health representative have a college degree. This assured that a capable and responsible person was employed for the position." This policy would hardly seem to meet the criteria for indigenous personnel as defined by Hicks (19), "Persons . . . who had demonstrated leadership ability, had shown interest in helping their neighbors, and who were typical members of their neighborhood." Recognition of the importance of the indigenous nonprofessional was further attested by Reiff and Riessman (20) and by the *New Careers Newsletter* published by New Careers Development Center, New York University, which includes references in each issue to a dozen or so new publications on the topic.

We believed that using consumers of public health services as contact agents could be effective in motivating other potential consumers to use available immunization services. Although DPT (diphtheria, pertussis, tetanus), DT (diphtheria, tetanus), poliomyelitis immunizations, smallpox vaccinations, and skin tests for tuberculosis had been available for a number of years at the area clinic with no eligibility requirements, public health nursing outreach efforts had met with limited success. We therefore employed a social-psychological approach which takes into account the determinants of behavior relating to the positions persons occupy in a social system.

Freeman and co-workers (21) among others have discussed the need for such an approach. Coe and Wesson (22) advocated an approach which primarily emphasized the physician's role and its social-psychological implications. The social-psychological implications of the roles played by other health personnel, however, may be no less important, and this was taken into account in the selection of personnel and in the implementation of an immunization program in Tulsa, Okla.

Method

In selecting experimental and control areas for the project a number of factors were considered. We attempted to locate two areas where residents had similar incomes, racial characteristics, and health characteristics. These areas were to be isolated from each other and the rest of the metropolitan area by topography and neighborhood communities. We located two areas which conformed to census tract boundaries and also met the other criteria. Census tract No. 10 was chosen for the experimental area and tract 11 for the control area. A third area, census tract No. 7, was chosen after the initial experimental phases of the project were completed.

The 5,147 persons living in tract 10, according to the 1960 U.S. census figures, had a median family income of \$2,213, and more than 99 percent of the population was Negro. According to a December 1963 health index survey made by the Tulsa City-County Health Department (23), the infant mortality rate of 57.5 was higher in tract 10 than all but two other census

tracts in the city. The tuberculosis rate of 68.0 was higher than all but three other census tracts in the city, and the syphilis rate of 363.0 was almost twice as high as any other census tract in the city.

Tract 11 was adjacent to the experimental area but separated from it by railroad tracks and only two streets crossed it. According to the 1960 U.S. census, the Negro population of 3,024 had a median family income of \$3,218 a year. Although there were other census tracts which corresponded more closely to tract 10 in median family income and population, they had the disadvantages of greater heterogeneity in racial characteristics and housing conditions; they also lacked distinct physical boundary lines.

According to the health index survey (23), the infant mortality rate was 52.6, the tuberculosis rate was 15.4, and the syphilis rate was 66.1. We did not believe that tract 11's immunization levels differed markedly from other lower socioeconomic areas, and it was therefore chosen as the control area.

The workers started work in tract 7 after completion of the initial experimental phase of the project. The families living in tract 7 had a median family income of \$3,812 a year. According to 1960 U.S. census figures, this predominantly Negro area had a population of 3,946. According to the health index survey of Tulsa County (23), the infant mortality rate was 65.0, which was higher than all but one other census tract in the city. The tuberculosis rate was 25.3, and the syphilis rate was 59.0.

Selection of Personnel

In this project, an attempt was made through personal contact and individual acquaintances of staff members to locate persons who had a record of working successfully with persons of lower socioeconomic classes. These persons were contacted, and the project's objectives were explained to them. They were asked to compile a list of persons whom they felt could do a good job of getting others to come in for their immunizations. The importance of listing only those persons whom they believed could do the best job was emphasized. Eight lists were obtained containing 80 names. Persons whose names appeared more than one time were interviewed first, and those persons whose names ap-

peared most frequently on the eight lists were selected and hired.

The technique of selecting personnel on the basis of the frequency with which they are recommended by others is, of course, not new (24). Reed (11) discussed this technique in finding and using natural leaders in various public health projects, particularly those concerned with lower socioeconomic classes. The seven indigenous workers who were initially selected were Negro women, high school graduates, and active in civic work. The four who completed the project were all over 40 years of age and two were over 65. Furthermore, they were not regarded in their neighborhoods as being "up-pish," "social climbers," or "Uncle Toms." That is to say, we believe health representatives who "speak the language," have similar value systems, a desire to raise the general health level of the Negro community, and have the same racial characteristics should be better able to assist in raising immunization levels than persons who do not possess these characteristics.

Personnel Orientation and Activities

Workers were given the necessary pretraining for survey work, and the project was begun in August 1965. They were assigned the task of making an immunization survey, because geographic units in the previous survey were not small enough for our purposes. The results were similar to the results of the 1963 survey for the lower socioeconomic segment of the population. Certain discrepancies, however, in the survey results and the fact that many respondents were not certain whether they or their children had been immunized or when raised doubts about the accuracy of our survey. Carefully done comparison studies, for example, those reported in the National Center for Health Statistics publications (25-27), also raise serious questions about the accuracy and validity of certain health survey information.

We therefore decided to use the most complete and accurate records available to us for comparison, those at the Variety Health Center. The health center is convenient to all three census tracts and contains the nearest public health immunization clinic. Although the center's records were not complete (private practice immunizations being omitted) it seemed probable that

these records, incomplete as they were, were likely to be more accurate and complete than those obtained by the surveys.

The worker orientation phase of the project began on September 20, 1965. The Tulsa City-County health officer met with the workers and outlined the rationale of the project and discussed some of the difficulties of raising immunization levels. Because of the need to increase the number of persons coming for immunizations, the public relations aspects and effects of clinic hours and distance from the clinic were discussed.

The acting nursing director of the Tulsa City-County Health Department spent several hours discussing the origin, transmission, and treatment of various communicable diseases. Various films about immunization were shown, and their possible use in getting people to come in for their immunizations was discussed.

The staff decided that, since the workers were going to be representing the Tulsa City-County Health Department, a broader departmental orientation might help them in their work. We also believed that low immunization levels of the population were possibly related to other health problems. Various department heads explained and discussed the role of their departments in the overall operation of the health department. The department of minimum housing standards was discussed as were the dental department, the nursing division, and environmental health and sanitation.

During a visit to the immunization clinic in the experimental area workers were immunized and observed the clinic in operation. They also attended a child health conference at the Variety Health Center, where a public health nurse explained the purpose of these conferences, and a conference was observed. Each worker also spent one-half day's orientation with a public health nurse working in or near the experimental area.

The last day of orientation was spent in assigning particular parts of the experimental area to each worker. An attempt was made to assign the workers areas (a) where they wanted to work, (b) familiar to them, and (c) which were relatively equal in terms of population. The orientation period ended on September 28, 1965.

Five workers began working in tract 10 on September 29, 1965. They worked in an assigned geographic area and were instructed to use whatever techniques they thought would be most effective in getting people in to be immunized. Among other things, they showed films on immunization to various church, social, and even apartment house groups. They spent most of their time making calls house-to-house. The workers most effective at getting people to come to the clinic were those who worked some of the time in the evenings and on Saturday and Sunday.

One of the comments heard most frequently by workers was, "We can't come to the clinic at those hours" (2 p.m.-4 p.m.). Consequently, night clinic services were started by extending hours to 7 p.m. Also, attempts were made throughout the period of intervention to improve the general approach of the clinic's staff to this project, for example, by having the

workers participate in clinic operation, by improving efficiency of immunization procedures and recordkeeping, by reminding people to return, and by improving the general atmosphere of the clinic. Also toys were obtained from church and neighborhood groups for the clinic waiting room, and children not needing immunizations were taken care of for the parents by clinic personnel.

Results

To examine the context within which results of the experimental intervention must be evaluated, data were initially combined for the Variety Health Center (ignoring residence area of persons immunized). Data were collected for the period of intervention, October 1965-April 1966. Data for October 1964-April 1965 were tabulated for the preintervention period for comparison. Data were also collected for the postintervention period-May-December

Figure 1. Number of persons served and immunizations, Variety Health Center, October 1964-April 1965 and October 1965-December 1966

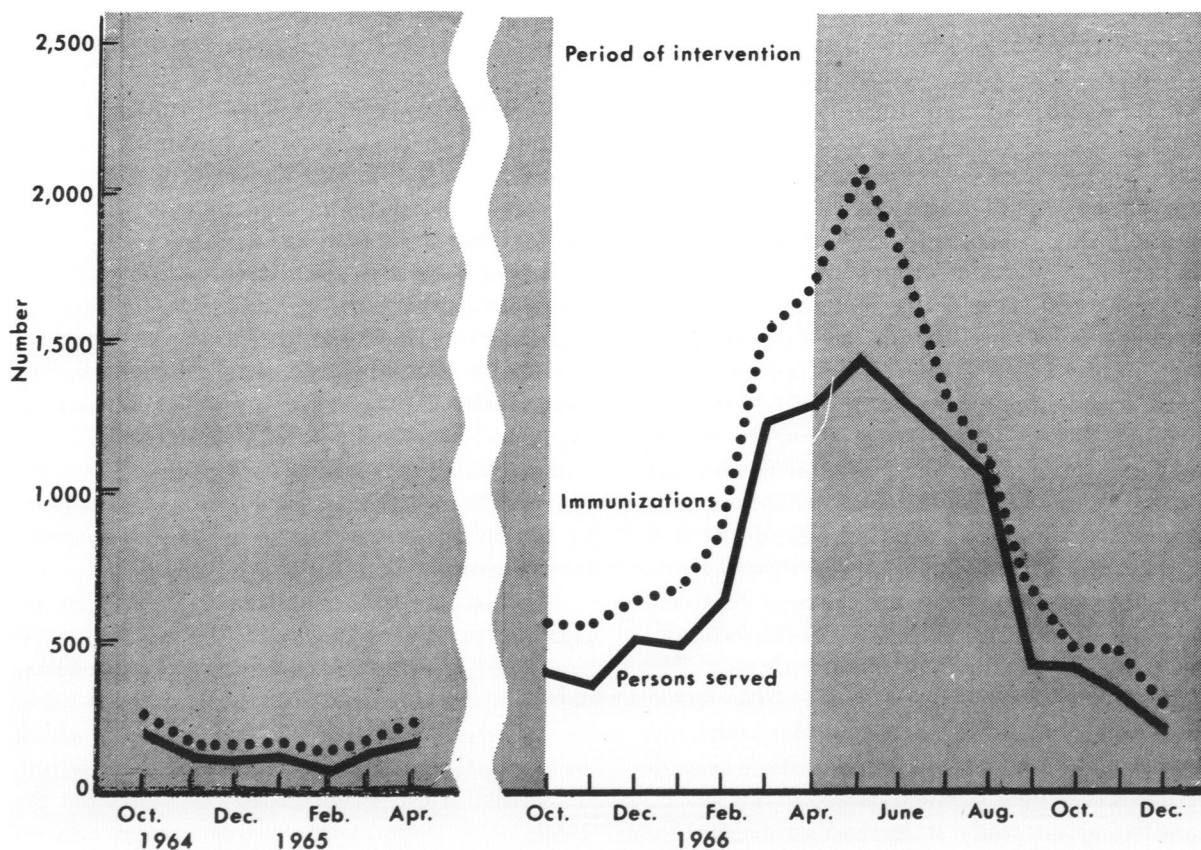
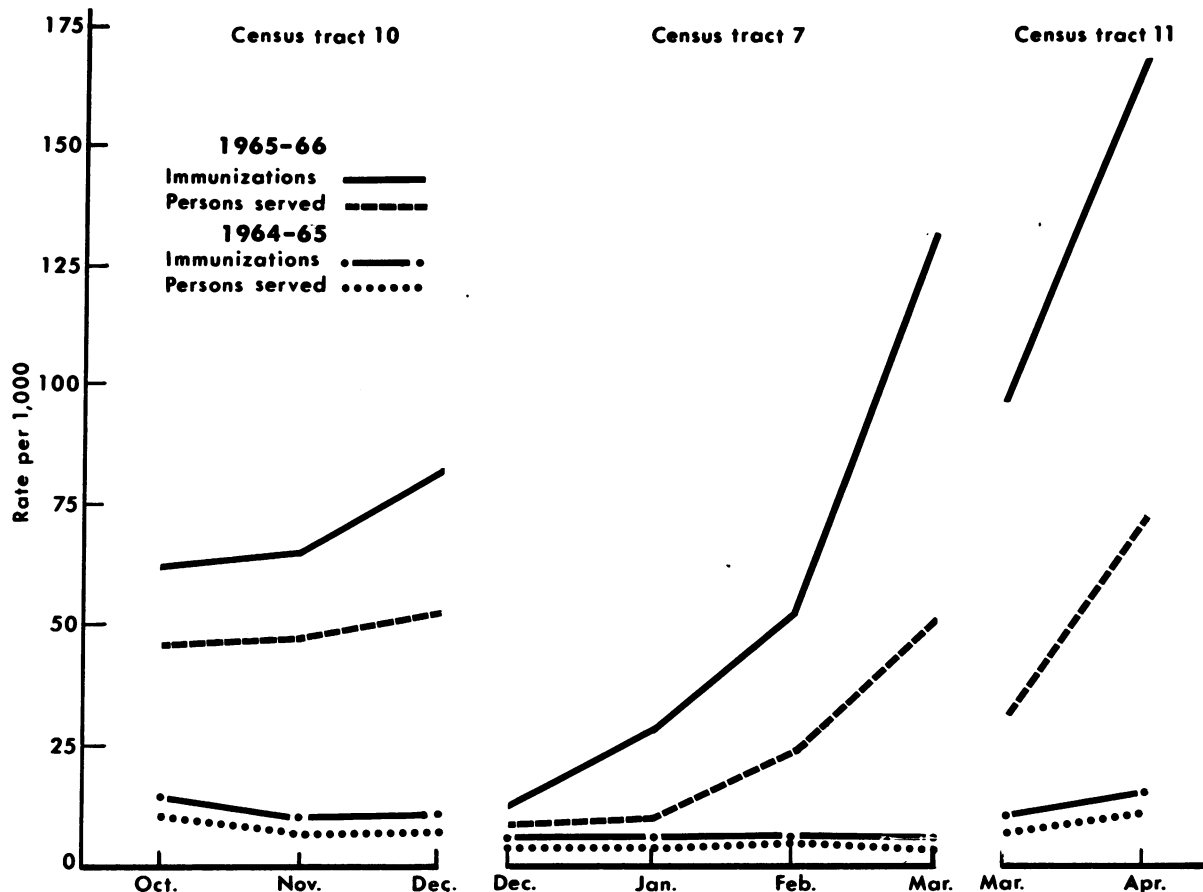


Figure 2. Persons served and immunizations per 1,000 population resident in census tracts 10, 7, and 11, October 1964–April 1965 (prior year) and 1965–66 (intervention year)



1966—to evaluate the aftereffects of intervention.

Figure 1 shows the number of immunizations and of persons served by the clinic for the three periods. Comparison of the preintervention year with the experimental intervention year revealed a consistently higher level in 1965–66 of both the number of persons served and the number of immunizations. The small relative increase in both indexes of effectiveness during October–December increased strikingly as the intervention period continued through April 1966, the total intervention period. The increase held through May, and then showed mild deceleration in June and increased deceleration during the following 6 postintervention months, finally reaching levels below those of the first month of intervention. Inspection of figure 1 also reveals that multiple immunizations were more frequent during the intervention period

and 2 months following but returned to the preintervention levels during the postintervention period July–December 1966.

Intervention, together with the addition of a night clinic and other improvements in the Variety Health Center operation, obviously resulted in greatly increased use of immunization services. Since the workers intervened in only three of the census tracts served by the center, the extent to which improved services to these hard-core areas was due to activities of indigenous personnel can be seen only through detailed comparisons of data from these specific census tracts.

Subsequent tables and figures compare data for specific census tracts and time periods in population rates and in rates of immunization—per 1,000 population—for a particular area so as to control for differential sizes of target populations. The comparison initially planned be-

tween tract 10 (experimental area) and tract 11 (control area) for October–December 1965 was so promising that intervention was extended to tract 7 during January–March 1966. Finally, during April 1966 workers returned to the original control area, tract 11, to be sure there were no other reasons for low immunization rates in

that area during the experimental comparison period other than nonintervention. This tactic also meets the objection to controlled research that some people who might have benefited from a program are excluded by the research design.

The temporal pattern of intervention in the three areas should be kept in mind when inspect-

Table 1. Rates per 1,000 population (1960 census) served ¹ and immunizations ² given October 1964–April 1965 and October 1964–April 1966

Month and year	Tract 7 (3,946 persons)		Tract 10 (5,147 persons)		Tract 11 (3,024 persons)	
	Persons	Immunizations	Persons	Immunizations	Persons	Immunizations
<i>October</i>						
1964.....	5.07	16.33	11.77	13.99	11.58	13.89
1965.....	4.81	7.60	46.24	62.75	17.53	44.31
<i>November</i>						
1964.....	2.02	2.29	7.97	9.90	3.30	4.30
1965.....	5.58	9.38	46.44	64.89	9.92	17.53
<i>December</i>						
1964.....	3.54	4.30	7.00	9.52	5.30	7.28
1965.....	7.10	11.66	53.62	81.41	7.94	18.85
<i>January</i>						
1965.....	3.04	3.30	6.60	8.54	5.30	6.61
1966.....	14.70	28.13	33.03	53.04	10.58	15.21
<i>February</i>						
1965.....	3.54	4.30	7.19	9.13	2.98	3.63
1966.....	23.82	46.62	29.73	56.93	13.56	21.49
<i>March</i>						
1965.....	3.04	4.05	6.21	9.32	7.28	11.24
1966.....	50.43	131.27	34.78	76.55	32.41	70.77
<i>April</i>						
1965.....	3.80	5.07	8.36	11.66	11.24	15.88
1966.....	46.38	116.07	33.81	76.55	72.42	166.01

¹ Persons served does not necessarily imply different persons. If the same person appeared twice for immunizations in a given month, he was counted both times.

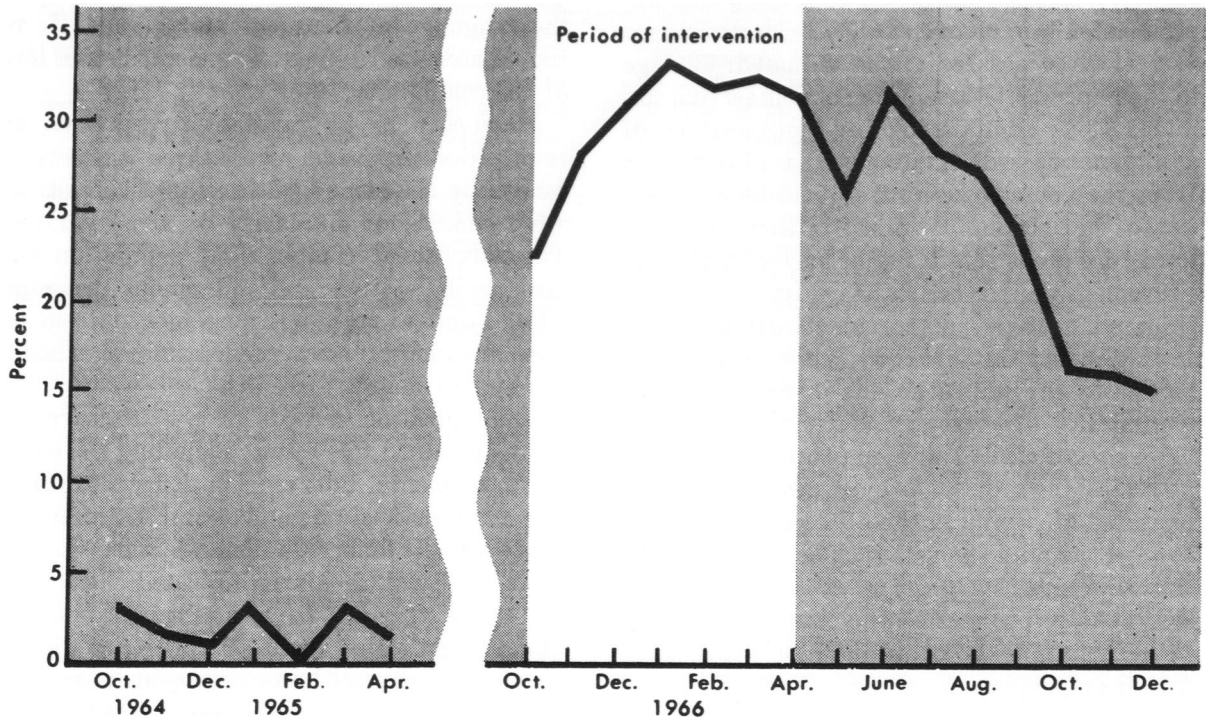
² Each immunization, whether a single or 1 of a series, was counted as 1.

NOTE: Periods of intervention are in boldface type.

Table 2. Age-specific immunization rates per 1,000 for census tracts Nos. 10 and 11

Age (years) and month	Experimental area (tract 10)			Control area (tract 11)		
	Number of persons	Pre-intervention, 1964	Inter-vention, 1965	Number of persons	Pre-intervention, 1964	Inter-vention, 1965
<i>October</i>						
Less than 5.....	621	93.40	151.37	424	54.24	99.06
5–14.....	888	11.26	167.79	618	8.09	118.12
15 or over.....	3,638	0	21.99	1,982	0	9.59
<i>November</i>						
Less than 5.....	621	61.19	143.32	424	25.94	61.32
5–14.....	888	11.26	176.80	618	1.62	27.51
15 or over.....	3,638	0	24.19	1,982	0	5.05
<i>December</i>						
Less than 5.....	621	67.63	159.42	424	42.45	40.09
5–14.....	888	11.26	323.19	618	4.85	35.60
15 or over.....	3,638	0	36.56	1,982	0	9.08

Figure 3. Percentage of immunizations administered to adults, per month, Variety Health Center, October 1964–April 1965 and October 1965–December 1966



ing table 1. October–December 1965 in tract 10, January–March 1966 in tract 7, and April 1966 only in tract 11 are indicated by rates set in boldface. Rates in tracts 10 and 11 were consistently low in 1964. In 1965, rates in experimental tract 10 were higher and increasing, whereas rates in control tract 11 were lower and decreasing. The relatively high rate in the control area in October 1965 may have been caused, in part, by the resurvey in both census tracts.

Following intervention in tract 10, the indigenous workers were moved to tract 7 (January–March 1966), and finally into the original control area, tract 11, during April 1966 only. Consequences of these sequential interventions can be seen in table 1. Figure 2 shows comparisons of each census tract with itself only during the intervention in that tract as compared with the same months of the previous year. Not only were more persons served and more immunizations administered during the intervention period, but rates continued to rise while workers were in the area. There is, furthermore, evidence of improved effectiveness of intervention over the whole 7-month period. Intervention in the

first census tract resulted in moderate improvement, the second in more rapid improvement and, in the last, the most rapid improvement.

Since immunizing adults in hard-core areas is considered especially difficult, age-specific rates were computed for the experimental and control areas during preintervention and intervention periods. Table 2 reveals improvement in immunization rates at preschool, school, and adult age levels in the area of intervention, tract 10. The increase in the rates for adults is particularly striking, since no adults from either tract 10 or 11 were immunized in 1964, although immunizations were available with no eligibility requirements.

Although the comparisons in table 2 are the most rigorous, they include only a 3-month period during 2 years in two census tracts. Figure 3 shows the proportion of total immunizations at the Variety Health Center administered to adults during the three relevant comparison periods—preintervention, intervention (7 months), and postintervention—covering the timespan from October 1964 through December 1966.

Discussion

The design and execution of this project constitutes a strange mixture. From the purist experimental point of view, the independent variables are assuredly contaminated. Change in the dependent variables (persons served, immunizations administered, and proportions of adults immunized) is obvious. It is also obvious from the consequences of sequential intervention of indigenous personnel in three different hard-core areas that a major factor in the improvement was the efforts of fieldworkers. Some proportion of the improvements demonstrated in this or any similar study, however, may also be due to any improvements in center staffing, availability of necessary materials, change or extension of clinic hours, improvements in staff attitudes toward the project, and changes in attitudes of people in the affected communities toward the clinic and its staff or toward public health programs in general.

Probably, projects of this sort are bound to make unhappy the proponents of either social action or proponents of rigorous experimentation, or both. From a broader (possibly a societal) perspective, however, it can be said that some experimental verification has been obtained for the applicability of social science knowledge to social problems, with the fallout advantage that a number of people got immunized. Or, it could be said equally well that in the process of getting a number of people immunized in hard core, resistant populations, some fallout in the form of research results was obtained. Both statements are true, although they represent different viewpoints.

The best research compatible with the objectives of social action should be designed into the action program. Not only can the action program thus be evaluated, it can also be assisted and improved. Conversely, socially desirable objectives should be included as often as possible in social science research programs.

Summary

The objective of this project was to determine whether "indigenous personnel," that is, persons living and working in low socioeconomic areas could be used effectively to increase immunization levels in selected areas. The indigenous personnel were persons who (a) lived in

the area, (b) whose backgrounds revealed participation in various community projects, (c) had the same racial characteristics and spoke the language of the community, and (d) revealed a desire to raise the general health level of the community.

Hard-core areas—resistant to previous immunization programs—were three census tracts served by the same health center. These tracts were chosen for similarity on some variables (income, racial composition, population size, and health status) and indigenous personnel, after minimal training, were moved from one area to another on a predetermined schedule for approximately 7 months.

Immunization records of the health center were examined for 2 years including the period of experimental intervention. Effects of the indigenous workers on number and age of persons served, and number of immunizations received were analyzed. Analysis indicated clearly that indigenous persons (a) can effectively improve the immunization level of the population of hard-core areas, (b) can become more effective with experience, and (c) should be continuously employed in these areas.

REFERENCES

- (1) Shaw, C. R.: *Delinquency areas*. University of Chicago Press, Chicago, 1929.
- (2) Thrasher, F. M.: *The gang*. University of Chicago Press, Chicago, 1927.
- (3) Pearl, A.: Youth in lower class settings. *In Problems of youth*, edited by M. Sherif and C. W. Sherif. Aldine Publishing Co., Chicago, 1965, pp. 89-109.
- (4) Pearl, A., and Riessman, F.: *New careers for the poor*. Free Press of Glencoe, New York, 1965.
- (5) Alinsky S.: The professional radical: conversations with Saul Alinsky. *Harpers Magazine* 230: 37-47 (1965).
- (6) Alinsky, S.: Conversations with Saul Alinsky. Pt. 2. *Harpers Magazine* 231: 50-59 (1965).
- (7) Rasmussen, W. A.: Why a maintenance program is important. *In Proceedings of the 1964 Immunization Conference*, National Communicable Disease Center, Atlanta, Ga., pp. 56-58.
- (8) Gray, M.: Why people don't do what's best for them. *In Proceedings of the 1964 Immunization Conference*, National Communicable Disease Center, Atlanta, Ga., pp. 73-76.
- (9) Mayer, M. P.: Letting people have your own way. *In Proceedings of the 1964 Immunization Conference*, National Communicable Disease Center, Atlanta, Ga., p. 82.

- (10) Martin, H. W.: Why people want their own way. *In* Proceedings of the 1964 Immunization Conference, National Communicable Disease Center, Atlanta, Ga., pp. 82-85.
- (11) Reed, E.: Techniques for achieving public response—natural leaders. *In* Proceedings of the 1964 Immunization Conference, National Communicable Disease Center, Atlanta, Ga., p. 89.
- (12) Speers, J. F.: Immunization programming for children. *In* Proceedings of the 1965 Immunization Conference, National Communicable Disease Center, Atlanta, Ga., pp. 21-22.
- (13) Kimes, W. T.: Achieving public responses. *In* Proceedings of the 1965 Immunization Conference, National Communicable Disease Center, Atlanta, Ga., pp. 42-44.
- (14) Glass, L. H.: Achieving public response. *In* Proceedings of the 1965 Immunization Conference, National Communicable Disease Center, Atlanta, Ga., pp. 45-47.
- (15) James, G.: Poverty and public health—new outlooks. *Amer J Public Health* 55: 1757-1771 (1965).
- (16) Ravenholt, R. T., Levinski, M. J., Johnson, M., and Ravenholt, A. M.: Immunizable disease occurrence and prevention in Seattle. *Public Health Rep* 80: 981-993 (1965).
- (17) Polk, L. D.: Program support techniques and aids. *In* Proceedings of the 1965 Immunization Conference, National Communicable Disease Center, Atlanta, Ga., pp. 34-35.
- (18) Denson, E.: Achieving public response. *In* Proceedings of the 1965 Immunization Conference, National Communicable Disease Center, Atlanta, Ga., pp. 39-41.
- (19) Hicks, F. J.: Training neighborhood health aides. *Amer J Nurs* 65: 1-3 (1965).
- (20) Reiff, R., and Riessman, F.: The indigenous non-professional. Monograph No. 1. Community Mental Health J, Behavioral Publishers, Inc., Lexington, Mass., 1965.
- (21) Freeman, R., Sheps, C. G., Tibbitts, H. G., and Lamson, G. G., Jr.: Patient care research: report of a symposium. *Amer J Public Health* 53: 965-969, June 1963.
- (22) Coe, R. M., and Wessen, A. F.: Social-psychological factors influencing the use of community health resources. *Amer J Public Health* 55: 1024-1031, July 1965.
- (23) Tulsa City-County Health Department: Tulsa city-county health index survey. Communicable Disease Center, State Aids Section, Oklahoma City, December 1963.
- (24) Lockhart, V.: Utilizing neighborhood citizens in neighborhood communicable disease control. University of Oklahoma Conference on Sociological Epidemiology, Nov. 1-5, 1965. Mimeographed.
- (25) National Center for Health Statistics: Health survey procedures. PHS Publication No. 1000, ser. 1, No. 2. U.S. Government Printing Office, Washington, D.C., May 1964.
- (26) National Center for Health Statistics: Interview response on health insurance compared with insurance records, United States 1960. PHS Publication No. 1000, ser. 2, No. 18. U.S. Government Printing Office, Washington, D.C., August 1966.
- (27) National Center for Health Statistics: The influence of interviewer and respondent psychological and behavioral variables on the reporting in household interviews. PHS Publication No. 1000, ser. 2, No. 26. U.S. Government Printing Office, Washington, D.C., March 1968.

Tearsheet Requests

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Program Notes

Hospital Bans Cigarette Sales

Another hospital has banned the sale of cigarettes within its walls—St. Luke's of Phoenix, Ariz. The medical staff unanimously approved removal of all cigarette machines and urged prohibition of over-the-counter sales at the hospital gift shop. The chief of the medical staff said that the action was taken "in light of St. Luke's tradition as a leader in the field of respiratory medicine."—*THE WEEK . . . For Hospitals* (American Hospital Association), September 19, 1969.

Treating Venereal Disease in Minors

Legislation passed in Illinois in 1969 allows a minor 12 years or older who may have come in contact with any infectious contagious or communicable disease to give consent to medical care related to the diagnosis or treatment of the disease. The legislation gives a physician discretion to determine whether to inform a minor patient's parents or guardian of the minor's venereal disease. Reporting of each incidence of disease to the department of public health or the local board of health is required.

Venereal disease tops the list of reportable communicable diseases in Illinois. The greater percentage of cases occur in young people, many of whom will not seek medical care because they fear the reaction of their parents.—*Weekly Report of Division of Preventive Medicine, Illinois Department of Public Health, November 21, 1969.*

Ratmobile in Control Program

The "ratmobile," a traveling center for dispensing information to Model Cities residents concerning the District of Columbia's war on rats, is being moved from school to school in the Model Cities area. Visitors find information, literature, film-

strips, and exhibits which explain why Washington, D.C., has such a severe rat problem and indicate what citizens can do about it. Health aides are on duty during visiting hours to answer questions and discuss the control program with visitors.

Three departments of the District government—public health, economic development, and sanitary engineering—are responsible for the project.

Needs of Immigrants in Hawaii

A special program of health education has been established in Hawaii. Now that the U.S. immigration laws have been liberalized, large numbers of persons have been moving to the State from other countries, especially from the Philippine Islands. The Hawaii State Department of Health has set up the program with financial support from the Chamber of Commerce of Hawaii.

The goal of the project is to remove language and other barriers that stand between the immigrants' needs for health and nutritional services and the fulfillment of these needs. Initial efforts are being directed at the Filipinos. Services will also be provided, however, to immigrants from other countries.

Risk of Dying From Selected Causes

The chances of eventual death from some cardiovascular-renal disease are about three in five under current mortality conditions in the United States. A newborn male has 564 chances in 1,000 of eventually dying from some cardiovascular-renal condition, compared with 632 per 1,000 for a newborn female.

The chances at birth of eventually dying from a malignant neoplasm if 1967 death rates in the United States remain unchanged are 162 per 1,000 for males and 155 per 1,000 for females. Further analysis of the data indicates that the chances of death

from cancer of the respiratory system for males are at least $4\frac{1}{2}$ times those for females. For all other malignancies as a group, the risk is greater for women till age 65.

The chances at birth of eventually dying from an accident are 61 per 1,000 for males and 38 per 1,000 for females. The greater accident hazard of males before midlife is in large measure due to their much higher frequency of motor vehicle fatalities.—*Statistical Bulletin* (Metropolitan Life), July 1969.

Better Care for Cancer Patients

A regional comprehensive cancer care and training program for the tri-State area of Massachusetts, New Hampshire, and Rhode Island has been started with a Regional Medical Program grant of more than a quarter of a million dollars. The program is designed to bring "the best possible care" to cancer patients in eight hospitals with a total of about 2,800 beds. The cooperating hospitals are affiliated with a geographically distinct and specifically oriented 24-bed cancer unit at the hospital of the Boston University Medical Center. The program includes patient care, demonstration, training, continuing education, and research.

The service goal of the program, according to Dr. Peter J. Mozden, program director, is "to provide any cancer patient in the area, regardless of where he lives or the nature of the problem, the best treatment medical science can offer, whether through his own doctor and hospital consultants working with him or, when needed, in the Medical Center itself." The cancer unit and its staff will act as a consulting and referral center not only for the surrounding ghetto neighborhood but for all participating hospitals in the area.—*THIS WEEK in Public Health* (Massachusetts Department of Public Health), August 18, 1969.

Items for this page: Health departments, health agencies, and others are invited to share their program successes with others by contributing items for brief mention on this page. Flag them for "Program Notes" and address as indicated in masthead.

YINGLING, MILDRED L. (Denver Department of Health and Hospitals), and SBARBARO, JOHN A.: *Evaluation of motivation of patients in a streptococcal control programs. Public Health Reports, Vol. 85, February 1970, pp. 113-116.*

In an effort to justify the use of public health nursing home visits in a beta streptococcal control program, the Denver Department of Health and Hospitals implemented a study to compare the results of three methods of contacting untreated patients with positive cultures and bringing them to treatment.

The study group consisted of 201 consecutively reported patients with untreated beta streptococcal throat

infections. These patients were divided into three groups by random selection, and each group was contacted through identical letters, but dispatched by a different method.

The three methods were: (a) certified letters mailed in official envelopes of the Denver Department of Health and Hospitals, (b) first-class letters mailed in official envelopes of the Visiting Nurse Association, and (c) letters presented to the pa-

tients by the visiting nurse during home interviews.

The results, as determined by chi-square test, were slightly better for certified mail than for first-class mail or public health nurses' visits. They justify the use of postal media in lieu of nurses' visits to stimulate untreated patients with beta streptococcal throat infections and their symptomatic contacts to seek medical care. The nursing time thereby freed can be used to meet the increasing demands for home visits in other rapidly expanding health programs.

ROBINSON, DEREK (Massachusetts Department of Public Health), HERMAN, MYER, and D'URSO, SAMUEL: *Survey of coronary care facilities in 50 Massachusetts hospitals. Public Health Reports, Vol. 85, February 1970, pp. 123-129.*

New coronary care techniques promise a substantial reduction in mortality from electrical failures provided they can be rapidly applied to all new coronary patients. In Massachusetts more than 2,000 lives might be saved each year if this care could be provided in all community hospitals. In a study population of 2.5 million, to care for the coronary

patients who reach the hospital alive each year would require 270 fully equipped hospital beds and 540 nurses completely and regularly retrained in monitoring and resuscitative techniques.

The Massachusetts Department of Public Health developed a standard guide to assess the ability of hospitals to meet the environmental,

technical, and nursing needs of coronary patients. Investigators used this guide in visits to 50 hospitals. The results showed considerable hospital investment in equipment and new facilities but a lag in training the staffs available to respond to cardiac emergencies. Because the nurse is most likely to have the task of interpreting changes in monitoring patterns and applying cardiac resuscitation, regional training schemes should be organized to train nurses for community hospitals.

PIRAINO, FRANK F. (City of Milwaukee Health Department), BROWN, EDWIN M., and KRUMBIEGEL, EDWARD R.: *Outbreak of Hong Kong influenza in Milwaukee, winter of 1968-69. Public Health Reports, Vol. 85, February 1970, pp. 140-150.*

An outbreak of Hong Kong influenza in Milwaukee, Wis., was studied in a sample of 637 members of the city health department and their families. The study data were obtained through questionnaires about the medical history and by serologic tests on postepidemic blood specimens.

The attack rates were uniformly high for all ages in the study group, ranging from 41 to 65 percent, the

lowest rates being those for preschool-age children and adults over 60 years. The clinical influenza attack rate for all ages in the study group was 43 percent during an 8-week period from November 10, 1968, through January 11, 1969. About one-half of the city's residents were estimated to have been affected.

The epidemic had a great impact on the community as a whole. Up to 50 percent of adult groups were ab-

sent from work because of it. City resources were greatly strained. Medical supplies ran low, and hospital services were reduced. Many schools closed.

Studies of influenza immunization among the health department employees indicated that vaccine given in October 1968 which did not contain the new Hong Kong antigen was entirely ineffective. Vaccine given in December 1968, however, which contained only antigens from the Hong Kong strain, reduced clinical influenza by 40 percent compared with the proportion affected in control groups.

WHITE, H. A., and O'CONNOR, P. A. (University of Michigan School of Public Health): *Use of the emergency room in a community hospital. Public Health Reports, Vol. 85, February 1970, pp. 163-168.*

A study of emergency room services at Saginaw General Hospital, a voluntary, nonprofit, short-stay hospital in a medium-sized city, was conducted in 1966-67. The emergency room was found to serve a cross section of the community.

Analyses of conditions diagnosed, sources of referral, and urgency of the conditions handled suggest that the demands for services in this emergency room were generally appropriate. There was no evidence in this study of specific patterns of

misuse of the emergency room.

The method used in this study is applicable to any emergency room. Such a study is helpful in analyzing services provided and in planning programs. Emergency room service patterns will differ according to hospital size, characteristics of patients served by that hospital, and size and characteristics of the community in which the hospital is located.

SCHULTZ, M. G. (Public Health Service), HERMOS, JOHN A., and STEELE, JAMES H.: *Epidemiology of beef tapeworm infection in the United States, Public Health Reports, Vol. 85, February 1970, pp. 169-176.*

A review of the incidence of *Taenia saginata* infection of man and cattle in the United States indicated that the number of cases of bovine cysticercosis detected in federally inspected slaughterhouses had ranged from 12,000 to 16,000 cases a year during 1959-67. In 1967, 72.6 percent of the cases were reported from slaughterhouses in California.

A survey of 43 State health department laboratories for *Taenia* identifications from 1963 through 1967 revealed that of 1,852,764 stool specimens examined, 429, or a rate

of 23 per 100,000, were positive for *Taenia* species. Taeniasis was concentrated in the far West and Northeast. Transmission of infection has been occurring within the United States; approximately one-third of the cases diagnosed in the United States were indigenously acquired. To illustrate transmission in this country, four cases of indigenously acquired beef tapeworm infection in human beings, probably attributable to a March 1968 epizootic of bovine cysticercosis, in Texas were described.

Epidemiologic data indicate that cattle in the United States are infected by feed, water, or pasture, directly or indirectly contaminated by tapeworm carriers. Interruption of transmission can be accomplished by educating livestock producers and their employees, by screening and treating infected personnel on ranches and feedlots, and by improving sanitary facilities in these establishments. Present methods of meat inspection are good, but they do not detect or properly dispose of all infected carcasses. New techniques for the detection of cysticercosis should be developed, and all infected carcasses should be condemned or refrigerated.

STEWART, JAMES C. (University of Oklahoma), and HOOD, WILLIAM R.: *Using workers from "hard-core" areas to increase immunization levels. Public Health Reports, Vol. 85, February 1970, pp. 177-185.*

The objective of this project was to determine whether "indigenous personnel," that is, persons living and working in low socioeconomic areas could be used effectively to increase immunization levels in selected areas. The indigenous personnel were persons who (a) lived in the area, (b) whose backgrounds revealed participation in various community projects, (c) had the same racial characteristics and spoke the language of the community, and (d)

revealed a desire to raise the general health level of the community.

Hard-core areas resistant to previous immunization programs were three census tracts served by the same health center. These tracts were chosen for similarity on some variables (income, racial composition, population size, and health status) and indigenous personnel, after minimal training, were moved from one area to another on a predetermined schedule for approxi-

mately 7 months.

Immunization records of the health center were examined for 2 years including the period of experimental intervention. Effects of the indigenous workers on number and age of persons served and the number of immunizations received were analyzed. Analysis indicated clearly that indigenous persons (a) can effectively improve the immunization level of the population of hard-core areas, (b) can become more effective with experience, and (c) should be continuously employed in these areas.