A civilian public health assistance program adapted to a guerilla warfare situation.

The Challenge and the Task in Vietnam

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TECHNICAL and economic assistance in public health and medicine in the Republic of Vietnam has become a challenging and important operation in the war. Public health programing encounters and must make provision for a difficult blend of cultural differences, Western colonial tradition and history, and the urgencies generated by guerilla warfare. The public health assistance program which has been devised to meet this situation has been able to lean on few precedents. Accepted patterns of timing and programing must be refashioned to meet the security demands of the moment, while a foundation for health services capable of modification to the requirements of peacetime is also maintained.

Tradition and Heritage

Accounts of the origin of the Vietnamese become increasingly diverse, legendary, and vague as one approaches the first millennium B.C., but at least one popular version traces a first Vietnamese dynasty to nearly 3000 B.C. Although an identifiable and largely homogeneous cultural group, a large part of the history of their country is that of domination and occupation by stronger states, beginning with the first major period of Chinese domination from 111 B.C. to 938 A.D. During this period, Chinese art, medicine, and culture were understandably popularized, leaving an impact which is easily recognizable in present-day society.

The period of eight great royal national dynasties began with the decisive defeat of Chinese forces by Ngo Quyen in 938 A.D. This era of national independence lasted until 1858 and was characterized by the development and expansion of Buddhism and consolidation and improvement in the administrative, educational, and economic organization of the country. During this period the traditional Chinese system of medicine was modified and adapted by Vietnamese practitioners, principally by modifying the compendium of plant and herbal medicines to incorporate those native to Vietnam. The increase in traditional medical practice during this epoch was a natural corollary to the growth and spread of Buddhism, since the two disciplines share important and basic axioms relating to causes of disease and physiological processes.

The first appreciable contact with Western medical practice resulted from the activity of French Roman Catholic missionaries, who began to arrive in Indo-China early in the 17th century. As a result of conflict between Vietnamese authorities and the missionaries, Napoleon III, in 1858, sent to Vietnam a French fleet which easily took the capital and major port. Colonization proceeded rapidly, and a series of forced political settlements culminated in acceptance of the status of a French protectorate in 1884. The era of French administration, which was characterized by active and passive revolts and periodic anti-French uprisings,

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continued, at least in name, through the Japanese occupation of the country from 1940 to 1945. Efforts to maintain a French presence continued through the confused and difficult post-World War II period of negotiation, guerilla uprisings, and politico-religious sect armies, terminating only in the decisive defeat of the French at Dien Bien Phu in May 1954.

During the French administration, many aspects of health and medical practices were modified and influenced by French custom and law, in theory and plan, if not in regular application. Vital statistics data began to be recorded in 1884, and various decrees relating to health and sanitary practices were promulgated. A medical school was established in Hanoi in 1917, but the effort was small for a country of 25 million, and graduating classes were frequently smaller than 20 persons (*1*).

The great powers' Geneva conference of July 1954 resulted in de facto partition of the country at the 17th parallel into Communist North Vietnam and the free Republic of Vietnam. The concurrent flight to freedom of nearly 900,000 refugees and their largely successful integration into the life and economy of free Vietnam is one of the more heartwarming and stirring phenomena of the country's turbulent history. The country moved progressively towards a democratic republican form of government, culminating in formation of a national assembly and adoption of a national constitution in October 1956. This structure was superseded after a violent revolt of military elements in November 1963, and the nation is presently ruled by military decree.

The Country and People

The 15 million South Vietnamese, who have been destined by history, fate, and the assistance of friendly nations to continue in the free world community, occupy a scimitar-shaped tropical country, about the size of New England, bounded on the outer edge by the Gulf of Siam and the South China Sea, and inland by Laos, Cambodia, and North Vietnam. About 10 percent of the population live in the capital, Saigon, and about 90 percent of the remainder in rural areas, including the fortified and defended strategic hamlets which have been under construction since mid-1962. The population subsists largely on an agricultural economy, dominated by the rich rice bowl of the Mekong River Delta in the south. The delta contains about two-thirds of the population of the country and has a density of about 300 persons per square mile, not counting the capital city. The long and narrow coastal lowlands area, containing about 30 percent of the total population, is also relatively heavily populated with a density of about 200 per square mile. The plateau of the highlands in central Vietnam is sparsely settled (about 32 persons per square mile) and contains the bulk of a primitive people, racially distinct from the Vietnamese, living in a multiplicity of tribal groups, who are collectively referred to as the highlanders of Vietnam (*1*).

This numerically small but strategically important minority lacks final historical and anthropological identification but is generally considered to be of Malayan-Polynesian origin mixed, to some extent, with Chinese stock. Their classification is more definitive linguistically than anthropologically and, on this basis, more than 30 distinct tribes can be identified. The innumerable dialects frequently make communication in general, and for health and

Two Views

"Leading the peasants in agrarian struggles; . . . solving the problems that face the masses; problems of fuel, rice, cooking oil and salt, of health and hygiene, and of marriage; . . . we shall become the organizers of the life of the masses and they will rally around us and warmly support us."—MAO TSE-TUNG: *Take Care of the Living Conditions of the Masses*

"The Congress of the United States recognizes that large areas of the world are being ravaged by diseases and other health deficiencies which are causing widespread suffering, debility, and death, and are seriously deterring the efforts of peoples in such areas to develop their resources and productive capacities and to improve their living conditions. . . . The Congress affirms that it is the policy of the United States to accelerate its efforts to encourage and support international cooperation in programs directed toward the conquest of diseases and other health deficiencies."—*United States Mutual Security Act*

Immunizations at a health station. The village health worker at left shares quarters with the information service.

medical purposes in particular, a formidable problem. The highlanders constitute about 5 percent of the total population of the country and about 75 percent of all minority groups; Cambodians and Laotians are other major minorities. A very small number of Chinese retain their overseas citizenship, but there are large numbers of Chinese who have adopted Vietnamese citizenship; both groups play a significant part in the business life of the country.

The Vietnamese population is remarkably young by Western standards. Available statistical data, considered sound, indicate that the median age in both urban and rural areas is only about 17 years (*2–4*). In the United States, advances in health, medicine, and general social and economic levels are reflected in an "aging" of the population from a median of 16.7 in 1820 to more than 30 years at present. Vietnam exhibits the classic population paradox so typical of underdeveloped countries, in which a high birth rate is largely offset by a high death rate, especially among infants. Adequate vital statistics data to compute expected longevity are not available, but life expectancy has been estimated to be as low as 35 years. Diseases of early infancy constitute the leading cause of death among hospital inpatients.

The Communist Challenge

The unique aspect of health and medical work in Vietnam is not only that it is accomplished in the shadow of the Communist-dominated North, the natural competitor in social and economic activities, but that the work must also be done while active and determined guerilla warfare, directed and aided by the Communist North, is being waged. At the time of partition in 1954, it would have been difficult to imagine a more intractable situation for the transition from colonial rule to independent, democratic self-government, which, in the last analysis,

demands the support of the general population. At the time of transition to a truly Vietnamese government, the country was exhausted by the war against the French, large elements of the army of South Vietnam were not under the control of the central government, and transportation and communications facilities in the country were in a chaotic state.

Conditions in health and medicine paralleled those in other fields. Medical practice depended largely on French medical and paramedical talent, and the sudden exodus of many of these workers left serious gaps in the functioning of many institutions and programs. The medical school at Hanoi was lost to the Communists, and the Faculty of Medicine which had been established at the University of Saigon was barely functioning because of lack of a physical plant and teaching talent.

The fact that, under these chaotic conditions, the infant republic was not only able to survive in the shadow of the Communist North but to make heroic efforts towards the solution of its economic and social problems was, in the opinion of many, interpreted by the Communist leadership as a dangerous success. In 1960, the Communists began to divert substantial effort and resources to the "liberation" of South Vietnam. Highly trained cadres, infiltrated from the North, joined the relatively inactive indigenous Communists in attempts to destroy or negate improvements in order to undermine confidence in the governmental systems and create a vacuum into which the Communists could swiftly move.

Since independence, the country has made determined efforts to improve social and administrative services to the population, including the provision of health and medical facilities and benefits. These activities have continued throughout the increasingly intense guerilla warfare waged by the Communist Viet Cong throughout the country, in the knowledge that the national political and military loyalty of a nation must be forged through social programs, including those of health and medicine, as well as through purely military and police activity.

Health and Medicine in Counterinsurgency

In the often confused and swiftly moving train of events in Vietnam today, one truism remains inviolate—the heart of the problem is rural. The majority of the 80 percent of the population in rural areas live in villages or hamlets, the smallest administrative units of the country's organization. The rural health program of the central Department of Health is one of the oldest and best efforts of the government to provide immediate and real medical relief

Contents and cost of kit given to each new village health station

Amount	Medicine	Purpose	Cost
4,000 pills	Chloroquin	Malaria	$18.92
30 tubes	Aureomycin ointment	Eye infections	4.20
1,000 pills	Sulfathiazole	Skin, ear, throat, and lung infections	3.45
4,000 pills	Aspirin	Aches, pains, fever	3.40
4 pints	Benzyl benzoate	Scabies	3.36
1,000 pills	Bismuth and morphine tablets	Diarrhea	2.83
2,000 pills	Brown's mixture	Cough	2.32
Do	Vitamin B and iron	Anemia and fatigue	2.00
1,000 pills	Piperazine tartrate	Intestinal worms	1.65
2 pounds	Sulfadiazine ointment	Skin infections	1.38
Do	Petrolatum	Keep bandage from sticking	.62
Do	DDT or lindane dusting powder	Lice or fleas	.50
300 tablets	Potassium permanganate	Disinfectant	.29
1 pair	Scissors		1.87
4 pounds	Cotton		1.84
12 rolls	Gauze bandages		1.16
2 packages	Gauze sponge		1.06
2	Thermometer		.76
4 rolls	Adhesive plaster		.43
1	Wooden case with hinges and lock		3.57
Total cost			55.61

to the population most in need. The following are the basic elements of this program.

1. A village or hamlet health station which may be established in any locality of 500 or more people. The health station is usually in a village or hamlet administration building, but, since it may occupy as little as 4 or 5 square meters, it may be located in any sheltered place, such as a corner of a schoolhouse or in a private home.

2. A standard health worker's kit of drugs and equipment, including a first aid and treatment manual, record book, and report and supply order forms. The contents of the kit, shown in the table, represent a compromise among elements of cost, the training which a village health worker may reasonably be expected to absorb, and the more prevalent diseases and medical conditions which he may encounter.

3. A trained and salaried health worker who has satisfactorily completed at least a 1-month training course. These workers are always trained by physicians, usually by government physicians. They are responsible for the contents of the kit and operation of the health station and are referred to as "village and hamlet health workers."

Sample Page From Village Health Workers' Manual

INFECTED EYES

Description

1. Discomfort in the eyes.
2. Red eyes.
3. Watery discharge or pus in the eyes.

Cause

Germs growing in the eyes.

General Treatment

1. Wash eyelids off with boiled water and a wad of cotton, wiping from the nose toward the outer corner of eye. Use a separate piece of cotton for each eye.
2. Squeeze 2 cm. of aureomycin ophthalmic ointment in each eye.
   a. Tip head back or have patient lie down.
   b. Pull down lower lid.
   c. Keep the eyelid open and have patient move eyes to distribute the ointment to the whole of the eye.
   d. Do not touch eye with ointment tube.
3. Repeat aureomycin ophthalmic ointment in each eye three times daily until eyes seem well. Then continue the treatment once daily for 3 days. It is important to continue the treatment even after the eyes seem well. In serious cases the treatment may take weeks.
4. If eyes do not improve a doctor is needed.

Prevention

1. Follow the general health rules given in the manual.
2. Avoid common towels and common wash water.
3. Avoid objects contaminated by people with sore eyes.
4. Do not touch your eyes with unwashed hands.
5. Do not let insects get in your eyes. They may carry germs brought from sore eyes.

The general policy, not rigidly enforced, is to select health workers from the village or area where they will work. While this policy limits the educational level and ability that can be required of recruits, the wage also imposes a limit, since the customary 600 piasters a month (U.S. $8) is roughly the wage of an unskilled plantation worker. Not only does a local health worker have rapport with his patients, but the villagers are also more likely to agree to pay him than an outsider, a factor which should help to shift financial support from the central Department of Health. Formation of village health councils, composed of several prominent villagers who aid in popularizing health and sanitation measures, is another method of engendering local financial support.

During his training course the village health worker is taught basic principles of contagion, handling of food and waste, elementary first aid procedures, and simple cleanliness. He is taught the practical applications of the medicines in the kit and how to use the treatment manual that depicts each of the procedures that he may attempt.

On the job, he relies heavily on the treatment manual that accompanies the kit. For each condition, there is outlined, in very simple language, a description of the symptoms, cause, medicines to be used, a course of general treatment with requirement for referral to a physician if necessary, and preventive measures which the patient is instructed to follow. The example of infected eyes (see box) is typical of the general pattern. (In Vietnam, acute

bacterial eye infection and trachoma are common.) Usually a sketch illustrates the treatment procedure. The manual is available in the major highlander languages as well as Vietnamese, and translation for use by other highlander tribes is proceeding as fast as possible.

The range of conditions which the village health worker may recognize and usefully treat is not unimpressive. He can give simple first aid for bruises, sprains, burns, and simple wounds and treat simple skin infections, infestations of scabies and lice, the infectious diarrheas which abound in the countryside, and a variety of other uncomplicated injuries and conditions.

How to prevent the health worker from attempting treatment for conditions beyond his capacity is not yet completely resolved. These workers receive technical backing from a district health nurse and, if necessary, can refer patients to a provincial hospital where medical skill is available. The district health nurses, usually men, take a 2-month course in public health in addition to their nursing training to enable them to supervise effectively the village health worker and perform immunizations and other preventive medicine services.

The need for this type of immediate subprofesssional medical relief was recognized at an early stage, and high official sanction came in 1956 with the signing of a presidential decree requiring the establishment of at least one first aid station in every village. This level of health care was built up with reasonable speed and success to about 2,800 first aid stations by mid-1960, but considerable difficulty was encountered in going beyond that point. In this task, the security problem was not inconsequential. Village health workers represented the organized government and were frequent targets of intimidation and terror, and their modest supplies of medicines were often the object of Viet Cong attentions.

Also, in the early stages, too much reliance was placed in the use of unpaid volunteers. Experience has shown that volunteers frequently come forward under pressure, which results in their developing a negative attitude towards the government administration and turning in a poor performance on the job. Because of this, arrangements have been made to pay these workers from the central Department of Health where necessary to speed total coverage of the country.

No dramatic way to protect the worker has been found, although his knowledge of local conditions affords him some degree of safety. In spite of this, whole areas were forced to suspend health operations, and no real solution was developed until the advent of the strategic hamlet program in mid-1962, when, through fortification, defense, and population control of the villages and hamlets, reasonable security began to be gradually assured in many places. In January 1962, the number of first aid stations remained at 2,800, about what it had been 2 years previously when the Viet Cong began stepped-up military operations. Six months later, after the strategic hamlets began to be set up, the number of reported first aid stations had increased to about 3,300, and by July 1963, 5,400 first aid stations were reported. The total number of possible locations is not known precisely but is estimated at about 18,000. Current experience, projected to complete coverage, indicates that the completed network of stations and workers should be able to provide about 60 million consultations per year at an average cost of 5 cents per consultation for drugs and supplies and about 2 piasters (less than 3 cents) for salaries.

The district health nurse who supervises and supports the village health worker is part of a team providing a higher level of medical talent at the next administrative echelon. There are about 250 districts in the country, and a typical one may contain about 50,000 people and 75 village and hamlet locations. The general aim is to provide each with a district health center having dispensary, infirmary, and maternity facilities. About 150 districts have such a health center, complete to some degree, and a standard plan for a minimum building has been developed to speed construction for the remaining districts. An ambulance at each center transports patients between villages, districts, and provincial hospitals, and motorbicycles aid the liaison work of the mobile personnel. Most district health centers are under the direction of nursing personnel at the present time.

The staffing pattern for a fully complete district health center calls for a midwife and as-

sistant midwife for maternity care, a nurse and assistant nurse for the infirmary-dispensary, a sanitary agent, and a mobile health team of three district health nurses. The members of the mobile team supervise the work of the village health workers, care for the more difficult cases, and arrange for the evacuation to the district or province of those patients needing higher level care. Significant numbers of these various disciplines have been trained, but their appropriate assignment and employment remains a major administrative problem.

The 41 provinces, or major administrative divisions of the country, are the level at which hospital and physician care are generally available. Of the 20,000 reported hospital beds in Vietnam, about 14,000 are in the provincial hospitals, 3,000 in national government hospitals, and 3,000 in private hospitals. Most provinces have a hospital with from 50 to 400 beds, but 6 of the newer provinces have no hospital worthy of the name.

Thus, Vietnam has about 1.5 beds per 1,000 population compared with the goal of the World Health Organization of 5 per 1,000 population for developing countries and with about 10 per 1,000 for the United States. This rate of 1.5 per 1,000 is as good as the average for Southeast Asia and would seem to be acceptable under the present emergency conditions. Also, a large number of supplemental military beds may be available to the general population some time in the near future. Furthermore, all medical resources are being strained to operate the existing hospital bed facilities.

It is generally considered that 1 physician can take care of about 30 beds. If one accepts a standard of 1 physician for 50 beds, Vietnam needs about 400 doctors for the existing hospital beds, and there are only about 200 physicians in the entire national health service at the present time.

Every civilian hospital in Vietnam lacks adequate medical personnel and adequate utilities, is poorly maintained, and is chronically short of drugs and supplies. Despite the heroic efforts of many, there is little reason to think that this picture can be changed radically in the near future.

Since battle casualties of the war emergency have put a heavy surgical load on most hospitals, the Department of Health needs and plans to have the capability of basic aseptic surgery at all provincial hospitals. Twenty-two standard-plan surgical units have been built. Within 1 or 2 years, each of the remaining provinces should have either a standard-plan surgical suite or a standard-plan compact provincial hospital more suited to the needs of the smaller, newer, and more underdeveloped provinces.

Experience elsewhere has proved that regionalization permits more effective coverage with limited medical resources, and planning for Vietnam calls for four levels of hospital facilities.

1. National hospitals at Saigon and Hué capable of handling all types of health problems.

2. Four regional hospitals capable of performing most types of surgery and suitable for teaching. These will be equipped with blood banks, laboratory and X-ray equipment, and be staffed by surgical teams from the United States and other friendly countries as well as Vietnamese. The hospitals will train Vietnamese interns and surgeons and will act as centers of reference and instruction for satellite provincial hospitals.

3. Ordinary provincial hospitals with standard-plan surgical suites and the capacity to do basic surgery under reasonable conditions.

4. A standard-plan compact provincial hospital which will emphasize outpatient care and support of the rural health program, while providing modest facilities for surgery and obstetrics.

Status of Oriental Medicine

Coexisting with the Vietnamese medical practices previously described is the system of traditional, or oriental, medicine that was ancient in Chinese science before the birth of modern Western medicine and which exerts a powerful influence on the population in ways that are not always clearly defined. However bizarre its teachings may be to a Western observer, its millions of adherents today testify to the success of the system in perpetuating itself as a discipline.

Although practices vary widely among different schools and regions, the general outlines

and basic premises of traditional medicine are well established. The system is closely tied to the social and religious roots of Sino-Vietnamese culture and makes use of astrology, geomancy, acupuncture, and metaphysical concepts. The point of departure of the system visualizes man as composed of five elements—metal, wood, water, fire, and earth. He has five organs, each in equilibrium with a body "outlet": the kidneys to the ears, liver to the eyes, lungs to the nose, spleen to the mouth, and heart to the tongue. A system of anatomy relates the influences of the planets and stars to the different parts of the body and, from this, coherent axiomatic systems of internal medicine, dermatology, parasitology, psychiatry, ophthalmology, obstetrics, and, most important, pharmacy, evolve (*5*).

Some study is needed of the degree of acceptance by the Vietnamese population of the facilities and advantages of Western medicine which they need so badly. On the surface there would appear to be no reluctance. Millions of consultations have been requested and treatment given through the village health stations and the rural health program, and a typical hospital outpatient clinic appears to be in danger of being overwhelmed by persons seeking medical care. A mammoth malaria eradication program has conducted spray and blood-collection activities affecting millions of people in the most remote corners of the country, meeting relatively insignificant, if noticeable, resistance from the population. Nevertheless, little objective data exist to permit a reasonably complete analysis of the comparative significance of the two systems in the minds and practices of the general population or to form the basis of policy decisions on what role, if any, the traditional system might be usefully encouraged and sanctioned to play.

In contrast to the situation in Vietnam, medical policy in Communist China is committed to the gradual changing of oriental medicine to a useful component of Western medical practice. While such a role is undefined as yet, Communist claims are that more than 5,000 Chinese practitioners of Western medicine have been organized to study the traditional system, and official policy is to encourage training and practice of the traditional art (*6*).

In Vietnam, there are about 700 Western trained physicians and about 4,600 oriental practitioners. Only about 600 of the latter practice in the capital city of Saigon, and their impact is largely in the provinces and rural areas. About 2,700 drug stores throughout the country are devoted exclusively to sale of the pharmaceutical products of the traditional system, some of them exotic by Western standards.

In Saigon, both systems of practice are available, and the population may exercise a reasonably free choice. Preliminary data from a household interview survey of a probability sample of Saigon families show about 2.4 physician visits per person per year, compared with about 4 for diagnosis and treatment in the United States (*7*, *8*). This is about 2.9 million visits per year to both Western and oriental type practitioners; of these, 2.3 million, or an impressive 79 percent, were to practitioners of Western medicine and only 17 percent to oriental practitioners (the remainder being unknown and not identified). This trend, while encouraging, undoubtedly reflects a large volume of free outpatient care at the nine government hospitals in Saigon. Further study of patient choice at provincial and village levels should be most interesting and useful.

Medical Education for the Future

Because of the loss to the Communists of the medical school in Hanoi, the question was not whether Vietnam would develop a new medical school, but when. The need was clear. Of approximately 600 physicians licensed for civilian practice at the present time, about 500 may be considered as "indigenous Vietnamese physicians," the remainder being French citizens holding temporary licenses, physicians with relief or charitable organizations, students absent for educational leave, and others. Of these 500 Vietnamese physicians, more than 10 percent are over 65 years of age, and over 20 percent, more than 60 years. Vietnam has a ratio of from 20,000 to 25,000 persons per physician, depending on the conservativeness of the criteria used, a strength clearly inadequate for any reasonable degree of self-sufficiency in medical manpower. This ratio represents a level of development about 40 percent of that of Pakistan and about 4 percent of that of Japan.

Based on plans for construction of a basic science building in 1963, the University of Saigon Faculty of Medicine was able to revise its medical curriculum, which had been based on outmoded French standards, to suit both modern requirements and the war situation. A result of this was to intensify its program, on a provisional basis, in order that the student may contribute a 2-year compulsory internship in army or provincial hospitals after a study period of 4 years. Previously 6 to 6½ years of study were required, with much time spent on the research thesis that was a prerequisite to the awarding of the M.D. degree. While the interns being graduated under the revised curriculum will not have formally received their M.D. degree, they can contribute immediately to the provision of basic medical care of persons wounded in the defense of their country. About 90 such interns are presently working in army hospitals.

Qualified Vietnamese physicians are receiving advanced academic training in the United States to prepare them to staff the faculty in Saigon on their return. An interim faculty of U.S. professors, capable of teaching medicine in the French language, is providing the necessary supplementary teaching talent until the school can be conducted entirely by Vietnamese. This program should provide Vietnam with a substantially improved complement of 1,000 to 1,300 physicians by 1968, resulting in a modest, but no longer critical, ratio of 11,000 to 15,000 persons per physician for the increased population expected at that time.

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PHS Campaign Against Aedes aegypti

The Public Health Service recently began a 5-year program to eliminate the yellow fever mosquito *Aedes aegypti* from the United States. Congress appropriated $3 million to support such efforts in fiscal year 1964.

Aedes aegypti is present in Florida, Georgia, Alabama, South Carolina, Texas, Tennessee, Mississippi, Louisiana, Arkansas, Puerto Rico, and the Virgin Islands. Although the United States has not had an epidemic of yellow fever since 1905, the disease is present in parts of Central and South America, and in the Caribbean area there have been extensive outbreaks of dengue fever, which *Aedes aegypti* also carries.

The eradication program, administered by the Communicable Disease Center in Atlanta, Ga., is part of an international endeavor to eliminate the mosquito from the Western Hemisphere.

Program Notes

Iron Deficiency in Infancy

An analysis by the Chicago Board of Health revealed that 72 percent of deaths in that city among infants 7 days to 1 year of age during 1961 occurred in the lowest socioeconomic area. Here the infant mortality rate was 50 percent higher than the city average; also, 92 percent of these deaths resulted from acute infections.

Because dietary deficiency of mothers during pregnancy and infants during the first year of life was considered a possible factor, the board of health has undertaken a controlled study of the possible effect of feeding infants a prepared formula containing 12 mg. of iron per quart. In the study, scheduled for completion in 1964, 1,000 infants are to be followed for 18 months each.

Health of 3 Out of 4 Insured

More than 141 million Americans, 3 of every 4 of the civilian population, had some form of health insurance protection through voluntary insuring organizations in 1962. The "Source Book of Health Insurance Data, 1963," published by the Health Insurance Institute, 488 Madison Ave., New York, N.Y., describes this as an increase of nearly 5 million persons with health insurance over the previous record high of 1961.

Tuberculin Skin Tests in Schools

A tuberculin skin test program got underway in Baltimore schools during February 1964. Dr. Robert E. Farber, commissioner of health, said about 7,500 first graders in 64 schools would be tested, with X-ray follow-up for positive reactors and their household associates. In 1963, 825 new cases of tuberculosis were reported in Baltimore, a rise of 6 percent over 1962.

Arrested for Stream Pollution

Failure to comply with Sanitary Water Board orders to cease discharging untreated milk plant wastes to a stream resulted in the arrest of a Lackawanna County (Pa.) creamery official in January 1964. The official was released on $500 bail for appearance later before a grand jury.

Philadelphia Campaign on Polio

Philadelphia's outstanding effort in communicable disease control last year was the Victory-Over-Polio campaign, according to Dr. Norman R. Ingraham, health commissioner. The immunization drive, a joint venture of the Philadelphia Health Department, Philadelphia County Medical Society, Junior Chamber of Commerce, and March of Dimes, provided oral polio vaccine to 1.2 million Philadelphians. To maintain the high immunization levels established in the drive, the health department will offer oral polio vaccine at all its district health centers in 1964.

NYC Controls Glue Sales

Sale of the types of glue sniffed by teenagers for "kicks" is banned to anyone under 18 in New York City under a new city health code amendment voted by the board of health. Exceptions are members of approved hobby clubs and those purchasing model building kits (New York *Herald Tribune*, Jan. 22, 1964).

Group Therapy for Teenagers

In a move to combat rising teenage delinquency, Westport, Conn., officials are organizing group therapy for troubled teenagers and their parents. The treatment will be under the control of a consulting committee comprised of mental health experts in the area, with referrals to come from school counselors, police, and various agencies (New York *Times*, Jan. 22, 1964).

Poisoned Children

Among children under 12 years old, 11,901 cases of accidental poisoning were reported in 1963 from 88 poison control centers and 80 hospitals in Illinois. Dr. Franklin D. Yoder, director of the Illinois Department of Public Health, estimates the total would have been 21,000 if all 300 general hospitals in Illinois had reported acute and recognizable cases. Internal medicines again ranked as the leading cause; aspirin products alone accounted for about one-third of the accidental poisonings.

Anti-Smoking Appeal

As Pennsylvania launched a new educational program on the harmful effects of smoking on health, employees of the Pennsylvania Department of Health received with their paychecks an appeal from Dr. Charles L. Wilbar, State health secretary, to set an example and give up smoking.

Continuing Education Grant

To provide continuing education in the hospital field, the W. K. Kellogg Foundation has recently granted $1.3 million to the Hospital Research and Educational Trust, a nonprofit organization dedicated to the general improvement of knowledge and practice in the hospital field. Stanley A. Ferguson, president of the trust, said that the grant will support a 5-year program to develop new skills, knowledge, and attitudes in hospital personnel throughout the nation.

New Serologic Testing Technique

The Baltimore City Health Department is trying a new micro technique using fingertip blood to determine potential of the procedure for widespread serologic testing. Blood specimens from health department volunteers who previously received either influenza or polio vaccine are tested for antibody response by the new technique.