Philippine Journal of Public Administration, Vol. XXIX, No. 1 (January 1985)

The Interface Between Research and Practice in the Philippine Health System

LEDIVINA V. CARIÑO AND JOSIE H. DE LEON*

The translation of research results into practice varies according to the relationship between the research and the socioeconomic conditions prevailing at the time of the research, the support provided by the agencies for its application, and the method used for gaining acceptance of the research. Based on a historical analysis of the Philippine health system, these conclusions have been arrived at: (1) there has been a shift in the orientation of research from the etiology of diseases to the delivery system and the social environment in which diseases are prevented and controlled; (2) the smoothness of the translation from research to practice is to a large extent dependent on the agency that provides support for utilization and often, researches supported by international organizations are more easily adopted in the Philippine health system; and (3) the method of doing researches and securing their acceptance has varied from an outright directive to programs with delivery and action components.

Introduction

Research and practice have long been regarded as belonging to two separate realms — the world of science and the world of action. However, the realms are interrelated and each one can learn from and feed into the other. The need for a bridge to span the pair has been more clearly recognized in the last few years, not only through such ideas as "research utilization," or the application of research findings, but also through "praxis" which sees a union of the worlds of theory and practice in "action research" and "investigation of reality in order to change it. This paper is an attempt to help construct that bridge.

Looking at the historical record and contemporary events, this paper traces the process by which research results have been translated into practice, the events that have conditioned research priorities and the findings and recommendations which have been recognized and implemented. We have

Professor and Dean, and Senior Research Assistant, respectively, College of Public Administration, University of the Philippines.

Paper read for the NSTA Silver Anniversary Seminar Series on July 11, 1983.

limited our scope to the Philippine health system, more particularly that part which plans and administers public health services. Thus, this paper focuses on the area encompassed by the Ministry of Health and its predecessors and touches on the private health sector only when it affects the Ministry's approach and activities. At the same time, as novices in the health services field, we can only describe what happens on the bridge — that is, the process of exchange between research and practice and the main substantive areas the exchange covered. We cannot, however, evaluate the researches, the activities ensuing from them nor the appropriateness of the bridge itself. We have, therefore, only provided a possible start towards praxis.

As already stated, our approach is historical. We start with the public health system and look at its activities and reactions to events, some of which already manifest the research-practice interface. From these, we will draw what seem to have been characteristics of the bridge from our viewpoint, and suggest learning points for any future interface.

Historical Background

The American Period

The beginnings of a public health system in the Philippines could be traced to the Spanish colonial period when the *Inspeccion General de Beneficencia y Sanidad* (Board of General Inspection of Charities and Health) administered the public health activities of physicians, healers, midwives and vaccinators, and excercised supervision and control over maritime health boards including quarantine stations, public baths and spas, civil hospitals and colleges of medicine and pharmacy.[1] By the time the Americans took over as colonizers in 1898, there had already been in operation five general hospitals, four contagious disease hospitals, two military hospitals and two naval hospitals. Despite the presence of these, however, very serious health problems still faced the country as a whole. These problems were in the very basic area of environmental sanitation, such as the absence of potable water, sewerage and drainage facilities; epidemic diseases such as cholera, smallpox and bubonic plague; and other endemic diseases like beriberi, malaria, tuberculosis, leprosy and dysentery. In response to this, the civil government that was established in 1900 under the Philippine Commission created the Insular Board of Health for the Philippine Islands to take general charge of public health in the archipelago. This Board drafted and implemented laws which were subsequently approved by the Commission such as the establishment of provincial and municipal boards of health; compulsory vaccination of inhabitants; regulation of the practice of medicine, dentistry and pharmacy; and the establishment of the Culion leper colony. Up to its dissolution in 1905, the Insular Board was faced not only with health problems but also with administrative problems like the lack of efficient personnel, lack of clear legis-

lation as to the jurisdiction of the Insular Board of Health and the Manila Municipal Government and a very low level of health education of the people. The latter in particular was the main reason for their resistance to the implementation of sanitary measures adopted to control epidemics, especially cholera.

The response of the research community to the shocking rate of infant mortality mentioned in the first Report of the Philippine Commission (1900-1903) even then presaged the research-practice interface of the current period. One of these concerns the focus of research. In this respect, two streams of research could be recognized. One concentrated on the etiology of the diseases causing the problem. Researches of this type were carried out in laboratories or field experiments by scientists and researchers in the medical community. The other stream dealt with such areas as the social milieu, the distribution of disease across the islands, the adequacy of the reporting system and the health services administration itself.

The other concerns the government's interest in research studies on health. This was clear, as evidenced by committees created by the Philippine Commission and later by the executive and legislative branches. In more recent years, the prodding of international organizations would also be evident, but that may have been present too, since the colonial government then was under American control.

An example of research conducted along the above context is on beriberi. This study, with a preliminary report in 1910, pointed out the problem of reporting the erroneous attribution of deaths from beriberi to meningitis. A committee created by Act No. 2116 followed up this study and issued a 1914 report pointing to the role of such factors as poor environmental sanitation, defect in food supply and lack of social betterment facilities in the deaths of children from preventable causes. Using the disease-centered approach, beriberi spurred many investigations. A dramatic event of the research—practice interface occurred in 1910. Following research reports read in the Conference of the Far Eastern Association of Tropical Medicine in Manila in March of that year, Governor-General William Cameron Forbes issued an order forbidding the serving of unpolished rice in government institutions. As a result of this, beriberi was reported to have practically disappeared in the Culion leper colony— a government institution.

The study of beriberi was also the starting point for research on the relationship of diseases and nutrition by several research groups. This resulted in the publication of height and weight tables for children which for many years were used as guide in the determination of their normal and abnormal development. Studies on the diet and nutrition of Filipinos were also conducted. The first of these was completed in 1909, the same year the first sanitary survey of a rural community was conducted.

Research on the etiology of amoebic dysentery, typhoid fever and parasites were also undertaken. Findings were later used in the detection of carriers and mild causes of the diseases and in mapping out the distribution of these incidences.

It should be mentioned that the first laboratories to follow through the more basic concerns of science were established as early as 1898, or as soon as the American Army seized Manila. These laboratories undertook blood examinations for malaria and serum reaction for typhoid fever. In 1901, Act No. 156 established the Bureau of Government Laboratories (later, the Bureau of Science, and presently the National Science and Technology Authority). As Tiglao and Cruz stated, the Bureau's "function although all embracing in the science field, seemed to put heavy emphasis on the upliftment of public health." Issues in health and the influence of health scientists was to spur the establishment of another significant research institute in 1933, the National Research Council of the Philippines.

In 1915, the Bureau of Health replaced the Insular Board, and the new agency had powers to modify or revoke any municipal ordinance (except those of the city of Manila), in matters concerning public health. The Provincial Board of Health was also abolished and in its stead District Health Offices were established. Laboratories were established for the production of vaccines, sera and medicines from indigenous sources and for medical examination purposes. The decidedly public health slant of these laboratories is understandable because of the many contagious diseases which overran the country in epidemic proportions during this period. It was therefore mainly due to the incessant, if authoritarian, implementation of radical measures such as systematic vaccination of the population; construction of drainage, sewerage and draining of esteros; isolation of dangerous communicable diseases; establishment of a leper colony; and teaching of hygiene to all public schools that the public health of the people considerably improved.

The campaign for the prevention and control of communicable diseases continued throughout the period of American colonial rule, although advancement in the area of public sanitation was not very satisfactory. Partly in response to this, and with the end of improving both the health conditions in the provinces and municipalities and the delivery of health services, the public health system was organized in 1912 into sanitary divisions, each composed of one to four municipalities and headed by a president who reported to a District Health Officer (Act No. 2156). The sanitary divisions existed until the passage of the Rural Health Act in 1914. Pursuant to this, the Bureau of Health was reorganized in 1915 into a commissioned health service under a rank classification scheme. Under this Act, local revenues were expected to supplement national funds. In addition, the Act created the Council of Hygiene, composed of seven members, two of whom were

from government (Bureau of Health and the University of the Philippines) and the others from professional associations and the University of Santo Tomas, including one lawyer and one property holder. Also in 1915, sanitary commissions, each composed of a sanitary officer, a bacteriologist, an engineer and a nurse, were organized. The commissions gave demonstrations on what kind of sanitary service communities should receive, advised the community on preventing epidemics and on the establishment of permanent sanitary improvements and, in general, studied the causes of the prevalence of diseases. This early precursor of action research did not survive long; in 1918 all sanitary commissions were abolished for lack of funds.

Recognizing the importance of schools in advancing and improving the health and sanitary conditions of the people, a medical inspection of schools was conducted to spot and suppress the spread of communicable diseases. By 1922, health examinations for all school children had been made obligatory. A course on sanitation and hygiene was also introduced in the elementary schools.

Because of the great shortage of trained health personnel, courses in public health nursing and in midwifery, as well as for nursing aides and sanitary inspectors were offered. In addition, a graduate school of public health was established at the University of the Philippines in 1927. (This is now the Institute of Public Health.). With support from the Rockefeller Foundation, the Red Cross and the Bureau of Health, the Institute of Public Health (IPH) in 1929 set up health demonstration units in Paco, Manila (for the urban area) and Binangonan, Rizal (for the rural area) to serve as study sites for students of public health nursing. (These were closed during the war and replaced by the Quezon City demonstration center in 1950.) These demonstration units became the prototype of the rural health units which were established in the 1950s. In addition to their role as practical field training stations, they also served

> as a means for determining the most efficient procedures or ways of combating the ravage of preventable diseases in the Philippine community, and as a demonstration center for carrying out the various functions of a modern health organization.

The creation of the School also showed the increasing role of academe in health and medical research. In 1938, the Biological Products Division of the Bureau of Science, including the Nutrition, Foods and Drugs Analysis and the Serum and Vaccine Laboratories were transferred to the School by virtue of Executive Order No. 43. It was at this point when medical scientific research started to become associated with the university.[2]

The resurgence of smallpox epidemic in 1918 led to a more intensive and sustained effort at systematic vaccination of the population. To combat

other prevalent diseases, committees were established to study, investigate and recommend measures to control typhoid fever, leprosy, malaria, beriberi and cholera. Separate committees were also formed for mental hygiene and nutrition. There were also field studies conducted on intestinal parasite, specifically hookworm, control. An initial survey at Bilibid prison was later followed by the implementation of a hookworm campaign in Cebu. Work on this area was subsequently turned over to the Philippine Health Service.

An aggressive program for maternal and child health was also implemented during this period. Puericulture centers and community health social centers were built all over the country starting in 1912. However, as these social welfare activities were then under the Public Welfare Commission of the Department of the Interior while other health agencies were with the Department of Public Instruction, problems of coordination between health and welfare services eventually surfaced, leading in 1932 to the reorganization of the Philippine Health Service into a Bureau of Health again. The Public Welfare Commission was also reorganized into a Bureau of Public Welfare and these two bureaus were placed under the Office of the Commissioner of Health and Public Welfare of the Department of Public Instruction.

By 1933, research had shown that beriberi was definitely caused by lack of vitamin B which could be found in abundance in bran and germ of rice. This finding led to the immediate implementation in the public health program of giving "tiki-tiki" or rice bran extract to all babies and of discouraging breastfeeding among mothers with signs and symptoms of beriberi.

Throughout this period, the Rockefeller Foundation provided financial and technical assistance to many activities in health. This included the establishment of schools and assistance on the study and control of malaria, hookworm, typhoid fever, malnutrition. Rockefeller supported both research and practice and was interested in disease-related as well as in social and administrative questions. To some extent, the Rockefeller interest in the Philippines may be credited to Victor Heiser who served for ten years here and who was Director of the Bureau of Health before his transfer to Rockefeller Foundation in 1914.

Continuing research was conducted on the control of diseases like tuberculosis, malaria, leprosy and yaws. There was a concerted effort at improving maternal child and health care facilities. As early as this period, concern had already been voiced over the uneven distribution of physicians in the country in favor of the urban areas to the detriment of the rural areas.

On the eve of the Japanese occupation, definite strides had been achieved in the area of health and sanitation. Despite this, a fairly high majority of those who died were not able to receive any medical attention.

The Postwar Period

The coming of the Japanese halted all public health activities of the government. The war wrought havoc on the health and sanitation conditions of the country. An intensive survey of public health and quarantine facilities conducted after the war by the US Public Health Service revealed a higher-than-prewar level incidence of malaria, tuberculosis and veneral diseases; widespread malnutrition and beriberi; non-segregation of lepers from the population due to the destruction of leper colonies during the war; hazardous sanitation levels; and destruction of quarantine stations.

As a result of the survey, immediate appropriation from the US Congress was made available, with program priorities set according to the findings of the survey. Thus, control of such diseases as tuberculosis, malaria, leprosy, malnutrition and venereal diseases, and immunization activities were given priority.

In the control of malaria, for instance, surveys were made to determine its incidence. Free treatment was given to malaria patients and control measures like DDT spraying, filling and subsoil drainage, river straightening, etc. were implemented. Malaria workers were also trained while research was made on the effectiveness of different types of control methods. In addition, educational campaigns were conducted in all public gatherings, e.g., schools, fiestas, etc. Special projects were undertaken like the Malaria Control Project in Negros which was used as demonstration site for intensive implementation of modern control measures against this disease.

For tuberculosis, a survey was made to ascertain the number of facilities available after the war. It was found that tuberculosis dispensary service was available only in Manila, and only five percent of tuberculosis patients all over the country had available beds, 50 percent of which was in Manila. Moreover, there were at least two agencies for tuberculosis control which existed, one of which was connected with the Department of Health while the other was a private agency that received more financial support from the government than its official counterpart. As a result of this survey, supplies and equipment were immediately purchased and made available to the community and provincial mobile chest clinics. An integrated system of anti-tuberculosis program (the Manila Tuberculosis Control Program) was activated to demonstrate the effectiveness of various methods of tuberculosis control. Physicians, nurses and technicians were also trained in the modern methods of tuberculosis control. The administrative and training arm of the program was centralized under the National Chest Center in Manila.

In maternal and child health and nutrition, surveys were conducted on the extent of malnutrition. Puericulture centers were activated and regular

clinics were opened in selected municipalities. Nutrition classes and clubs were organized and equipment were purchased for the Research Laboratory of the Bureau of Animal Industry, the Nutrition Research Section of the North General Hospital and the Nutrition Research Laboratory of the UP Institute of Hygiene.

In the case of beriberi, the Bataan Enriched Rice Project was conducted from 1947 to 1950 by the US Public Health Service with funding from the Williams-Waterman Fund Research Corporation of New York City and Hoffman—La Roche of New Jersey. Selected municipalities in Bataan were introduced to the "premix" enriched rice in their diet. The result was the eradication of beriberi and iron deficiency anemia in these areas. This finding led to a national program in the use of enriched rice to control beriberi in all endemic areas. A development related to rice enrichment was the creation of the Institute of Nutrition in 1947 to conduct research and to engage in activities which seek to improve the country's overall nutrition levels. (The Institute is now the Food and Nutrition Research Institute, another agency of the NSTA.)

Other priority areas were environmental sanitation, such as disposal of human excreta; drilling of wells; food sanitation and supervision of cemeteries; school health program; health education; and rehabilitation of hospitals and public health laboratories. In line with this, the Bureau of Public Welfare was transferred in 1947 to the Office of the President and became the Social Welfare Administration, while the health component remained with the newly reorganized Department of Health.

Another survey conducted in 1950 by the US Economic Survey Mission (or Bell Trade Mission) recommended the setting up of an adequate public health program that would focus on the development of the rural areas. An offshoot of this was the assistance from the Mutual Security Agency through the Philippine Council for US Aid (MSA-Philcusa). These included projects on school health, public health education and learning, serum and vaccine production, chest clinics for TB control, malaria and schistosomiasis control, water supply, rural health and nutrition. The World Health Organization (WHO) and the United Nations Children's Educational Fund (UNICEF) participated in many of these projects which included laboratory and field studies and their application as well as the immediate operation of new programs.

Of the projects presented for MSA-Philcusa assistance, the project that had the most impact on the Philippine public health program was the study on the rural health unit.

An initial survey conducted in Mindanao by MSA-Philcusa and the Department of Health revealed very inadequate — almost minimal — health

services available to the rural people. In response to this, a project was undertaken in 1953 to supply medical kits to far-flung barrios and to strengthen the office of the president of the sanitary district through the creation of rural health units (RHUs). Eighty-one such RHUs were established as demonstration units in selected provinces, each unit composed of a physician, nurse, midwife and a sanitary inspector. The MSA supplied equipment such as jeeps, refrigerators, sterilizers, examining lamps and tables, microscopes, assorted medical instruments and medicine. Training of RHU personnel was carried out at the Rural Health and Demonstration Center in Quezon City. The RHU was to be the agency charged with delivering an integrated package of health services.

The enthusiastic response of the health personnel and the people involved culminated in the passage of the Rural Health Act of 1954 which provided for the nationwide establishment of RHUs following the staffing pattern and approach used in the 81 demonstration clinics.

In 1958, the Department of Health was reorganized following the recommendations of the Government Survey and Reorganization Commission. The Commission came up with a Reorganization Plan creating eight regions which decentralized the administration of preventive and curative health services in the country. However, certain programs remained centralized and continued as "vertical programs" from the center, including those on malaria, schistosomiasis, nutrition, and maternal and child health. The reorganization was implemented only after the United States Operation Mission (USOM) gave an ultimatum to the Philippine government that certain funds would not be released unti the implementing details for the regional offices, for which the funds were intended, were promulgated.

Less than a decade after the Rural Health Act, a WHO team headed by Dr. Thomas Evans came to Manila in 1961 to assess the rural health program. The team noted weaknesses in staffing, funding, training and supervision of the RHUs and recommended improvement in these areas so that the program would be able to respond to the specific needs of local communities. It stressed the necessity of providing inducements for service to remote areas. It also saw the need to coordinate "regular" RHU functions with special programs in TB, malaria, etc. Moreover, it recommended a pilot study to test its recommendations prior to full implementation. This 1962 recommendation was implemented only towards the end of the decade. The IPH had earlier chosen Rizal as the practical training site for its abridged course for municipal health officers in 1968. The WHO was then looking for a demonstration area for its General Health Service Development project and saw the advantage of a tripartite project with IPH and the Rizal Provincial Government. The WHO provided the project a physician, nurse and sanitarian as researchers, with the Rizal Provincial Health Office providing counterpart staff.[3]

The Rizal Development Integrated Health Project, as the experiment came to be known, sought to retrain midwives to serve the health stations in the far-flung barrios of Montalban and San Mateo. The project succeeded in demonstrating that the physician could delegate certain duties to his staff thus enabling him to attend to more serious matters.

The 5-year Rizal study became the basis of manpower targeting (1 physician for every 20000, 1 midwife for every 500, etc.). The participating agencies in this study were later joined by the World Bank. Through its Population Loan, the Bank provided funds for the initial support and retraining of midwives and the provision of the new equipment. The lessons learned from the health project were later incorporated into the Restructured Rural Health Care Delivery System (RRHCDS) which was the main government health program until the promulgation of primary health care (PHC) in 1980.[4]

From the 1950s onwards, a number of health research projects were carried out by the Philippine government with assistance from international organizations, especially the WHO, UNICEF and later the World Bank; and through bilateral agreements, primarily with the United States. Most of the assistance were components of bigger programs which were in the form of direct aid to operations. An examination of these health projects with bilateral or multilateral assistance shows their extent and variety: tuberculosis control, malaria eradication program, schistosomiasis, leprosy control, venereal infections, cholera, serum and vaccine production, virology center, maternal and child health, midwifery training program, school health education, public health education, nursing, nutrition, dental public health, mental health, physiotherapy and occupational therapy, hospital rehabilitation, family planning, occupational health, and health manpower development.

Reflecting the breakthroughs in medical science both here and abroad and the improved health condition of the country, the researches undertaken focused not so much on the causes and cures of diseases as on the means of controlling their spread and improving the delivery of health services. Pilot testing, program reorganization tryout of different approaches and involvement of international agencies marked the researches of this period. The research and action history of the TB control and the malaria eradication programs are cases in point.

Tuberculosis Control. As early as 1907, tuberculosis had already been recognized as a leading cause of death among adults in the country. But attention to its control was not immediately given high priority by public health authorities, presumably because the effects of the disease on the population were not as dramatic and as sudden as the epidemics of cholera, smallpox, and the plague. Indeed, it was a private agency, the Philippine

Tuberculosis Society, that initiated the campaign against the disease in 1910, although this agency received generous government funding in its anti-TB activities.

It was only in 1930 that the first public tuberculosis agency, the Tuberculosis Commission, was created. This later became the Tuberculosis Control Section under the Bureau of Health upon its reorganization in 1932. The thrust of the anti-TB campaign during this period was mass fluoroscopic examination with the use of mobile x-ray units. After the war, the US Public Health Service (USPHS) organized the National Chest Center together with the Department of Health. WHO and UNICEF took over from the USPHS after its activities were phased out in 1949. UNICEF initially provided equipment for the BCG Vaccine Production Laboratory in Alabang and the Laguna Chest and TB Demonstration Center in Sta. Cruz, Laguna. At the same time, WHO, noting the widespread incidence of tuberculosis and the limited resources of the government, recommended the use of the community approach in the control of tuberculosis rather than individual treatment of patients.

BCG vaccination was selected as the main control measure because it was a relatively cheap procedure which can be applied on a mass scale. A mass BCG vaccination project was then conducted in 1952 jointly by the Department of Health, WHO and UNICEF.

At the same time, the Tuberculosis Control Section, which became a division under the Bureau of Health by virtue of an executive order[5], was able to obtain Philcusa assistance to embark on an expansion of the government's national tuberculosis program. The objective of this project was to organize and establish ten chest clinics with full TB service every year for five years. In 1953, a survey of all provincial hospitals was conducted to determine the existing TB service facilities and the feasibility of establishing TB wards and chest clinics as part of the planned six-year program drawn up jointly by the DOH and the MSA/Philcusa.

In 1954, the Division of Tuberculosis was reorganized under the expanded program. Funds were provided for the establishment of provincial chest clinics, mobile X-ray units, mobile preventive units and where necessary, village resettlements. The government thus acknowledged the earlier observation made by the WHO that an effective TB control program for the Philippines should be one which is centered around the patient in his community rather than on the more expensive institutional approach. The main responsibility for the TB control program would therefore be with the local health units.

The proposed TB control program was first tested in 1955 on a pilot basis in Ilocos Norte. The program aimed to develop a health program using

the available local resources. This pilot project was decentralized in 1958 and over 1300 RHUs participated in the program. At the same time, twenty BCG teams were maintained at the eight regional centers of the Department of Health to carry out training and assessment activities.

In 1964, another project, the Cebu Tuberculosis Control Pilot Project was started in order to determine the magnitute of the disease all over the country. After a survey of the local health conditions which showed the prevalence of TB, INH, an anti-TB drug, was provided to patients for free home treatment by UNICEF while technical advice was provided by WHO. The Cebu Pilot Project served as the Demonstration and Training Center for the organization of a provincial TB control service and its integration with the activities of the rural health units.

The offshoot of the Cebu Project was the Cavite Project which relied on sputum tests for identification of TB-afflicted persons. Microscopes and drugs were provided direct to the RHUs. A WHO evaluation in 1969 found this method economical but observed that the microscopes were underutilized. There was also difficulty in the supervision and follow-up of patients undergoing treatment. The result was another pilot project in Pampanga, but this time, microscopes were provided only to rural health units, microscopy centers covering four or five municipalities.

These findings served as inputs to the integrated national tuberculosis program. In 1970, one demonstration province was selected in each of the eight health regions to integrate to the basic health services these TB control activities: large scale prevention, case-finding activities, selective and effective treatment of patients and proper functioning of the logistics system.

In 1972, the National Tuberculosis Program was evaluated by the WHO/WPRO Regional Tuberculosis Advisory Team. The Team recommended the expansion of the plan and the use of a more aggressive approach in eliciting community awareness and participation. It also recommended the involvement of regional directors in the TB control program, and the intensification of its educational component so that there would be less reliance on x-ray for TB diagnosis. Certain changes in the administrative, recruitment and training, technical improvements and recording aspects of the program were also recommended. Coordination with private agencies, especially the Philippine Tuberculosis Society, was also emphasized.

Malaria Eradication Program. Malaria control was severely handicapped during the prewar period by lack of funds and the inapplicability of control methods then available. The discovery of DDT radically changed the picture and was first tested on a small scalle to determine its effectiveness in Philippine conditions. In February 1952, DDT was piloted on a large scale in Mindoro as a joint undertaking of WHO and the Philippine government. MSA/

Philcusa provided the project with transportation equipment and other supplies. At about the same time, malaria control teams were formed to implement DDT spraying and other control measures.

Because of the encouraging results of the Mindoro Pilot Project, a nationwide six-year Philippine-American Plan for Malaria Control was evolved which called for the activation of 30 malaria control field units. This was a joint undertaking of the Philippine government and the US Public Health Service.

The resurgence of malaria in 1959 due to withdrawal of spraying and the deterioration of the administrative, organizational, and financial aspects of the malaria eradication program led to the latter's reorganization under the Malaria Eradication Service of the Department of Health. External assistance was provided separately by WHO and the US Agency for International Development (AID).

In 1969, there was a change in the strategy from eradication to control. Progressive withdrawal was started and spraying was limited now to areas with high levels of malarial incidence. This strategy was supported later by the WHO, USAID and the DOH (the strategy review team) which stated that the program should be replanned on a staged basis. In 1973, a multidisciplinary review team composed of representatives from DOH, WHO, NEDA, USAID, DLGCD and the Budget Commission followed up on the progress towards the implementation of the strategy review team's recommendation.

The Malaria Eradication Training Center at the San Lazaro Hospital provided facilities for malaria personnel staff in the Philippines and other nations. By 1972, it was able to graduate 1,326 professional and senior technical personnel from 43 countries, 80 percent on WHO fellowship grants.

Other Researches. In line with the present trend of focusing on delivery of support mechanisms for health services, a number of new institutions have joined the field. Many of them came from the disciplines of sociology, public administration and other social sciences.

Alfiler's review of Philippine researches and experiences discusses a number of the studies which could illuminate issues related to the present Primary Health Care (PHC) thrust.[6] Some of these researches are valuable for their documentation of experiences of program implementors and include the works of Barrion,[7] de la Paz,[8] de los Angeles,[9] and Galvez-Tan[10] and the reports of such programs as the Capiz Emmanuel Hospital Manpower Resource Distribution Project, the PNA Primary Health Care Project, the Project Compassion, Project Medikong Bayan, the UP Institute of Health Sciences in Tacloban, the UP Comprehensive Community Health Program (CCHP) and the Barefoot Doctors Project in Region IX in Mindanao. There

are also proccedings of seminars and workshops on the CCHP and similar participatory movements in health and other social services. Finally, there are the theses and research projects where outsiders (i.e., those not involved in carrying out the program) study and evaluate the approaches current in field areas. These include several studies of units of the University of the Philippines aside from the IPH, such as those undertaken by the College of Public Administration,[11] the Institute of Social Welfare and Community Development[12] and the Philippine Center for Economic Development.[13] The Institute of Philippine Culture of the Ateneo de Manila University also contributed to the discussion of the Carigara experiment.[14]

Researches which could feed into PHC were not the only concern of the social scientists. Other concerns include the utilization of hospitals,[15] the accessibility of health services,[16] the operation of a city health program,[17] the distribution of health resources[18] and the development of a professional association.[19] The list is not comprehensive and does not cover all the researches that the health system could utilize.

Aside from studies done outside the Ministry of Health, mention must also be made of those emanating from the MOH itself. One such major work is the National Survey on Health and Nutrition, undertaken in 1978 and in 1981. The surveys provide data on the health status of the population and are important inputs to the Ministry's planning efforts. The work done by its Disease Intelligence Center and other units should also provide inputs to policy. At the same time, the Ministry has commissioned researches for the study of its own programs and activities. These include Reforma's study on The Rural Health Practice Program, which analyzed the RHPP in terms of appropriateness, adequacy, efficiency, effectiveness and unintended side effects.[20] The study also analyzed existing administrative structures and the perceptions of program participants.

A functional analysis of the Ministry of Health was conducted in 1980 by the UP College of Public Administration with financial support from the IBRD.[21] The study assessed the support services provided to three programs of the Ministry of Health, namely, maternal and child health, nutrition and family planning. The study recommended the transformation of support offices from units of control to units of assistance and a reexamination of central-local operations.

Conclusions

The translation of a research finding from the world of science to the world of action appears to vary according to the relationship between the

research and the socio-economic condition obtaining at the time it is undertaken, the support provided by sponsoring agencies for its application, and the method used for gaining acceptance of the research.

(1) With the changing social conditions, the main researches utilized by the health system have shifted their focus from the etiology of diseases to the delivery system and the social environment in which diseases are prevented and controlled. In the early part of the century, when epidemics were rife, researches focused on the causes and cures of diseases. After World War II, the focus shifted to the question of why mortality from certain diseases remained high despite existing knowledge of its causes and cure. This highlighted cultural, economic and political issues. Emphasis therefore shifted to approaches and strategies for providing health services, as well as staffing, funding, and supervision questions. Also, the clients came to be regarded in both research and practice not only as passive service targets, but as active participants in service provision and enhancement.

This shift in the orientation of research has led to a change in the composition of students of the health sciences. Disease-oriented studies necessarily involved medical researchers and natural scientists who were primarily concerned with microbes, blood chemistry, and the like. But the newer type of researches have ushered in not only investigations from public health, but also those from public administration, sociology, economics and other social sciences. The increasing acceptance of these persons in a field dominated by medical doctors manifests the oppenness of the health system itself to the new emphasis.

(2) The interface between research and practice is easier and smoother when the agency sponsoring the research provides support for its utilization. The strength of what may be called "the WHO factor" in this survey may be traced to this ability to support the recommendations emanating from the researches it develops, funds and/or encourages. The support referred to is not only material and financial — although their importance cannot be denigrated — but also the international organizations' "moral suasion" as regards the adoption of certain innovative concepts and approaches that the Philippine health system may be reluctant to try out if it were doing it alone. Thus, the wholehearted embrace of primary health care does not necessarily stem from the persuasive researches and innovative approaches various researchers have put forward as much as the word of an Alma Ata.[22]

This experience is not unique to WHO-supported researches. The RHU idea also had a long gestation period before the work of the IPH demonstration centers were recognized by the MSA-Philcusa. They provided jeeps, other equipment and research funds. Subsequently, health units were established in all municipalities following the Rural Health Act.

Later, the Rizal project, with IPH, WHO and provincial sponsorship, evolved into the RRHCDS when the World Bank provided initial funding for the retrained midwives (still called IBRD midwives in some rural areas) and for other program needs.

(3) The smooth transition from research to practice for foreign-sponsored work raises a disturbing question that has been posed by some experts in the field: would the health service innovations be as acceptable if they were espoused only by Filipino researchers, without the imprimatur of international agencies? This is not an easy query to answer since the logistics made available by these agencies would confound any attempt to isolate the "colonial mentality" variable. However, in the course of the research for this paper, we have heard many alleged instances of a Filipino idea being taken over by a foreign consultant, with the former allowing it so that the idea may eventually see fruition.

(4) As in other areas, researches are not easy to utilize if their recommendations do not reach the administrators or if there are no funds or logistics for their operationalization. The fate of researches coming from outside the health field may be cases in point. These researches have been used to strengthen the relatively small programs they have focused on instead of being fed into the larger health system. The MOH has expressed its desire to have these researches discussed before its central and field personnel. The utilization of the researches may also increase with the present PHC because of the area-specific nature of its program, which allows variation from one region to another. Moreover, the usefulness of these studies may increase if the researchers themselves provide the specific procedures and material necessary for their implementation.

(5) The methodology for doing researches and securing their acceptance has also varied. The striking incident of Forbes' order regarding the serving of unpolished rice and the resulting decrease in the incidence of beriberi is probably impossible to duplicate especially at this time when both the population and the bureaucracy are very much larger. Yet the study committees may have their functional equivalents in commissioned researches with a steering committee to monitor both the research and its utilization. Their effectiveness may depend on the support of the ministry and the strength of the sponsoring or funding agency.

Several programs touching on delivery approaches combined research with action components, often using the language but not necessarily the methodology of pilot studies. By this, we mean that some of these created demonstration units or pilot projects for the purpose of testing the efficacy of certain strategies. To the extent that their results were used to improve later nationwide application and the funds and resources poured to the pilots were likewise made available to succeeding sites, the pilot approach may be

said to be actually followed. However, these conditions did not always obtain and one is left wondering if pilots or demonstration units were really meant to be testing grounds for new ideas or were merely legitimizing devices for predetermined activities. If they are the former, perhaps a more extensive discussion of their generalizable features as well as their unique qualities could be provided for the guidance of utilizers from other areas or with different resources and supports. If the latter, the need for conducting researches is decreased since they will be of little actual use. However, practice without study also has negative effects on the program to be undertaken.

Recommendations

On the whole, the health system appears to provide a fertile ground for bridging research and practice. The sheer number of research results that have found their way to operations augurs well for any future interface. Our recommendations, therefore, will be modest.

First, the creation of a monitoring group within the Ministry to continually update itself on research developments that could be used in its programs, as well as a commitment from the researchers to keep the Ministry informed of their relevant investigations.

Second, a continuing willingness on the part of the Ministry to seriously consider recommendations made in good faith by researchers, even those without international connections and logistics, perhaps even to fund such researches and their application, including those that criticize present programs. We suggest this in the light of the Ministry's past record of openness and in the context of its current reorganization efforts which are modifying a host of time-honored practices and procedures and which lend themselves to any number of field studies, social experiments and evaluation researches. In fact, the monitoring and evaluation of this reorganization is one of the research priorities of the Health Services Research Committee of the Philippine Council for Health Research and Development.

Third, great care should be taken by researchers in putting their findings in language comprehensible to the administrators, in ascertaining the feasibility and efficacy of their recommendations and in describing the conditions under which their studies were conducted, and therefore the conditions under which their program suggestions would work. (We do not know to what extent the researches we have described above followed these strictures, but it does no harm to reiterate them here).

Lastly, because we are researchers, we would warn the action people against uncritical acceptance of research findings particularly if accompanied by the proverbial carrot. The swift transformation of some projects from pilots to nationwide programs disturbs us even if the projects appear to be right and well-meaning. A careful and thorough, if slow, consideration of what research recommendations should be implemented would save time in the long run since errors would thus be avoided.

These recommendations touch on the work and attitudes of researchers and administrators. The interface of research and practice would indeed be enhanced if the inhabitants of the world of science and the world of action each play their parts well.

Endnotes

[1] Unless otherwise stated, the source of material for this section is the excellent comprehensive history of Teodora V. Tiglao and Wilfredo L. Cruz, *Seven Decades of Public Health in the Philippines* (Tokyo, Japan: SEAMIC, 1975). We have taken the liberty to rearrange events and other data to make our presentation of the research-practice interface clear. Interpretations of the data are also our own responsibility.

[2] Interview with Dr. Andres A. Angara, June 1983.

[3] Tiglao, "The Institute of Public Health, University of the Philippines, 1927-1983," Manila, 1982.

[4] Separate interviews with Dr. Angara, Dr. Andres Galvez and Dr. Tiglao, June 1983.

[5] Executive Order No. 329, 1951.

[6] Ma. Concepcion P. Alfiler, "Primary Helath Care and Related Researches and Experiences," paper prepared for the Management Education Council, University of the Philippines Seminar Workshop on Administration of Health Services: Focus on Primary Health Care, Asian Institute of Tourism, March 5-6, 1982.

[7] Leonor Barrion, OSB, "The Makapawa: A Diocesan Community Based Program on the Island of Leyte," *Contact*, June 1980.

[8] Trinidad C. de la Paz, *et al.*, "The DMSF Katiwala Experience: An Approach Towards the Building of a Self-Sustaining Primary Health Care Structure at the Community Level," n.d.

[9] Cora de los Angeles, "The Role of a Nurse in a Community Based Health Program," UERM Memorial Medical Center, 5th Year Nursing Class, June 13, 1979.

[10] Jaime Galvez-Tan, "Strategies and Methods in Building CBHP: The Samar-Leyte Experience," *Guide for Community Based Health Programs* (Manila: Rural Missionaries of the Philippines, 1974).

[11] See Ledivina V. Cariño and Associates, *Integration, Participation and Effectiveness: An Analysis of the Operations and Effects of Five Rural Health Delivery Mechanisms* (Manila: Philippine Institute for Development Studies, 1982); Alfiler, "Comparative Case Studies of Community Based Health Projects: An Integrating Report," College of Public Administration, University of the Philippines, Manila, 1981; and Alfiler, "Local Resource Utilization Schemes for Selected Community Based/Primary Health Care Projects in the Philippines," a report prepared for the United States Agency for International Development (USAID), November 5, 1982.

[12] Elmer M. Ferrer and Maureen C. Pagaduan, "Working as Equals? Towards a Community Based Evaluation System" (Masteral thesis, University of the Philippines, June 1981).

[13] Sylvia H. Guerrero and Elsa P. Jurado, *The Impact of the Panay Unified Health Services* (Manila: Philippine Institute for Development Studies, 1983).

[14] Carmen Enrile Santiago, "The Social Preparation of the Community Towards the Partnership Approach to Health Care," paper presented to the Research and Development Program, Institute of Health Sciences, University of the Philippines, Tacloban City, 1979.

[15] Donna Dequina, "A Study of the Utilization of Medical Facilities (PGH and GSIS Hospitals)" (Undergraduate thesis, University of the Philippines, 1975).

[16] Ma. Lourdes S. Joves, "Accessibility of Government Health Services in the Bicol River Basin Area," Bicol Studies Series No. 10, College of Public Administration, University of the Philippines, 1979.

[17] Antonio Hidalgo, "Evaluation of a Health Program," *Philippine Sociological Review*, vol. 27 (January 1979).

[18] Cecilio Adorna, "Distribution of Health Resources in the Philippines" (Masteral thesis, Universalty of the Philippines, 1976).

[19] Robert B. Stauffer, "The Philippine Medical Association: A Case Study in Interest Group Development," in Jose V. Abueva and Raul P. de Guzman, (eds.), *Foundations and Dynamics of Filipino Government and Politics* (Manila: by the authors, 1969).

[20] Mila A. Reforma, "An Evaluation of the Rural Health Practice Program," College of Public Administration, University of the Philippines, 1977.

[21] Ledivina V. Cariño, Ma. Concepcion P. Alfiler and Rebecca P. Albano, "Support for Health Programs: A Functional Analysis of the Ministry of Health," report prepared for the Ministry of Health, College of Public Administration, University of the Philippines, October 1980.

[22] Alma Ata, USSR, was the site of the International Conference on Primary Health Care sponsored by the WHO and the UNICEF held on September 6-12, 1978.