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AN EVALUATION

Conducted by the

PUBLIC HEALTH SERVICE
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FOR
THE INSTITUTE OF INTER-AMERICAN AFFAIRS

BACKGROUND OF THE SURVEY

By C. O. Rowe

Acting President, Institute of Inter-American Affairs

With the opening of 1952, the Institute of Inter-American Affairs entered the tenth year of its existence, and its cooperative health program entered the tenth year of development. Starting in February 1942, with an agreement with a single Latin American country, Ecuador, the Institute, as an agency of the United States Government, has carried on joint cooperative programs with nineteen friendly, neighboring States.

The Institute has been sensible of its responsibility to share with all of those concerned with international health development the experience which it has had during this decade of intensive activity. In terms of the comparatively small sums of money that have been spent thus far in world history in the improvement of health through international action, the size of this joint program has been of great significance. Further, hundreds of United States health experts and leaders have worked together with thousands of Latin Americans on an intimate basis. Today the North Americans engaged in the joint program are limited in number and the numbers of Latin Americans have greatly increased.

SIGNIFICANCE OF THE PROGRAM

There can be no question but that this program has had its effect on the governments and the peoples of all the Americas and on the health of the world. The fact that in the program over 1300 Latin American physicians, nurses, engineers and other professional personnel have been trained in the schools of public health and in the public health services of the United States is in itself of great significance. The existence of new facilities--some of them in the great cities, some of them in the remotest stretches of the vast Amazon valley--is evidence of accomplishment. It is difficult, if not impossible, to assay the true and full values of such a program, which touches intimately the lives and hopes of the masses throughout a hemisphere.

During the decade there was, indeed, a great awakening in public health throughout the Americas. Vigorous leadership emerged. Schools of public health were established. Ministries and Departments of Public Health were expanded. Sanitation was greatly improved. New spirit and strength was injected into regional cooperation in health through the Pan American Sanitary Bureau, and on a world basis through the new World Health Organization.

The program of the Institute of Inter-American Affairs was one of the factors underlying this wide movement. The great private foundations, such as the Rockefeller and Kellogg Foundations, which had been active in Latin America for some years, as well as the official agencies, played their part in this awakening. Increased nearness, due to airplanes; a common danger from abroad, increased exchange of persons and communications; - these and many other factors gave impetus to the widespread development of public health throughout the Americas.

In the light of the importance of public health promotion on a worldwide basis, which came into sharp focus with the founding of the World Health Organization, followed by the enunciation of the broad concepts of the Point Four program, it seemed important to make some estimate of the values inherent in the joint programs of the Institute of Inter-American Affairs; to determine somehow, if at all possible, the particular merits of the techniques used, the value and effectiveness of programs focused, as these were, at certain defined areas of health development; indeed, what might have been learned that would be useful to others working in the field of world health. It was considered necessary that the facts at least be placed in the open for others to study.

OBJECTIVES OF THE SURVEY

With these ends in view, the Institute determined upon an evaluation of its accomplishments in health; yes, and its failures. It wished this to be as objective as possible. It therefore suggested to the United States Public Health Service, with its wide and varied experience in evaluating programs within the United States, that it undertake this task. The Public Health Service agreed to attempt the job and has produced a report unique in character and charged with solid values. The evaluation has been, not a dead analysis, but creative; a guide for the future.

That such an undertaking was impossible of accomplishment on any quantitative, traditional, or statistical basis was evident from the fact that the basic data concerning the underlying problems, and the progress made toward their solution, were lacking. This lack is indeed one of the outstanding problems in Latin America even today. It is one to which too little attention has been paid during the course of the years in the international programs. Further to complicate the problem, the Institute itself did not have basic data with which to measure truly the effect of its individual projects and their impact upon communities. The program from the beginning was an action program which under the exigencies and pressures of war did not allow for the basic studies and the establishment of measuring rods which were known to be desirable. Under war conditions, the indispensable was dispensed with.

The impact upon crude health problems which could be easily seen by the untrained eye could not be measured to the full satisfaction of the technically trained. Many thousands throughout the hemisphere feel, live, know, the deep and truly great values of this program. Recognizing that a cold routine analysis could not be made, it remained, therefore, to determine how an estimate of the accomplishments of the program could be arrived at with the greatest objectivity. It was apparent both to the Public Health Service and to the Institute that evaluation of the accomplishments of the program would have to be limited to that which would be in the nature of a comparatively quick but nonetheless expert "look-see"; one which, while not exhaustive, would carry the weight of authority in the world of public health.

THE SURVEY AGREEMENT

In the summer of 1951, problems connected with such a survey were discussed by the Surgeon General of the Public Health Service, Dr. Leonard A. Scheele; the then President of the Institute, Kenneth R. Iverson; and the Director of the Health and Sanitation Division of the Institute, Dr. H. van Zile Hyde. On August 28, purposes were defined and anticipated procedures and composition of the evaluation group were outlined in an agreement running between the Public Health Service and the Institute. Provisions covering these aspects of the survey were:

PURPOSES

A. The primary purpose of the survey is to appraise the influence of the cooperative health and sanitation programs of the Institute and the host American republics from the following standpoints:

   1. The extent to which indigenous health organizations are being developed and stabilized.

   2. The rate at which programs and methods introduced by the Institute are being incorporated into the permanent public health structure.

   3. The extent to which health habits and practices of the people are being influenced.

B. In addition to the primary purpose cited above, it is anticipated that information will be accumulated which will be made available to the Institute in order that the Institute may:

   1. Determine future program emphasis.

   2. Improve current administrative techniques of the Health and

Sanitation Division and other Divisions of the Institute.

3. Evaluate relationships with other organizations interested in international health.

4. Evaluate the Servicio as a device and determine its proper organizational location in government structure.

RESPONSIBILITIES

A. The Bureau of State Services, Public Health Service will accept primary responsibility for assembling the Survey Staff, planning and conducting the survey, and preparing a report on the survey. The Bureau will be guided by the Institute as to the selection of areas, appropriateness of survey methods and subject matter for inclusion in the final report.

B. The Institute will make available to the Survey Staff selected by the Bureau pertinent information from the Institute files, will arrange necessary entrees, and will participate throughout the survey in planning the work and consulting on all problems. To insure participation by the Institute in matters of relationship and policy, its Director of the Division of Health and Sanitation is given a position, in respect to this survey, which is co-equal with that of the Associate Chief representing the Bureau of State Services.

PROCEDURES

A. A systematic and complete analysis of file material in Washington will be made. On the basis of this first step, areas will be selected for field study by the staff. They will work either singly or in teams, as the occasion warrants. Areas will be selected so as to give representation to differences in geography, program content, methodology and results. Some of these areas will be sites for more intensive study than others. Throughout the study an effort will be made to work from objective data, although the values in impressions will not be ignored.

B. An intensive examination of Servicio operations will be made in two or three countries, and will be supplemented by examination of operations in other countries, as may be decided after review of file material or field observations, or both.

C. Both the Director of the Division of Health and Sanitation of The Institute of Inter-American Affairs and the Associate Chief of the Bureau of State Services, separately or jointly, will make "on the spot" observations of the survey while in progress.

D. An opportunity will be provided by the Institute for a discussion by the Survey Staff with all the Chiefs of Field Party to fill in information not obtained through visits to limited areas, but deemed essential in preparing the report and for exchange of views on tentative conclusions of the survey group.

E. Intensive examination by the basic staff of areas decided upon will be conducted during November and December 1951; supplementary information will be gathered through brief visits to Servicio operations in other countries by individual staff members during January 1952. A supplementary staff of experts will review phases of operations for which they have been selected because of their particular competence both during the intensive survey period and during the month devoted to rounding out observations.

SURVEY STAFF

The basic Survey Staff will consist of 1 Medical Director, 1 Sanitary Engineer, 1 Cultural Anthropologist, 1 Senior Nurse Officer, and 1 Organization and Methods Advisor. This basic staff will be supplemented by such special experts as are determined by the Director of the Bureau and the Director of the Division of Health and Sanitation of the Institute to be necessary.

The agreement provided that funds to defray the costs of the survey would be provided by the Institute and included a tentative time schedule.

PARTICIPATION AND EMPHASIS

It had been determined in discussion that, under the responsibility of the Bureau of State Services of the Public Health Services and under the direct personal supervision of Dr. Joseph Mountin, whose pre-eminence in public health was unquestioned, that a group of carefully selected men and women should be gathered together to visit the field, meet with all concerned, both high and low, to study the program. Dr. Mountin's sudden and untimely death occurred during the course of the study and was a grave loss. He gave inspiration and wise guidance in the planning of the study. He visited Latin America in connection with it and took a place of leadership in the conferences that were held in Washington during its course, especially including the meeting of the evaluation team with field party chiefs to discuss the findings and determine the content of this report. The absence of his firm guiding hand in the preparation of the report will remain a permanent loss to the international public health movement.

The Institute of Inter-American Affairs participated with the Public Health Service in conducting the study in order to facilitate all aspects of it, both within Latin America and in Washington. The part of the Institute has, therefore, been one of assisting the Public Health Service rather than one of introspection, self-criticism or self-approval.

THE TEAM IN ACTION

The method of team study was based upon visits to certain of the Latin American countries. Attention was focused upon three which were jointly selected as representative of the program. Except for Dr. Derryberry, whose schedule necessitated a later study, the team as a unit visited these three countries for survey and evaluation of the cooperative program in each. Individual members of the team then fanned out through all the countries included in the program in order to gather more first hand information and to extend their observations.

The survey was thus carried on through sampling of two types: first, a sampling of total country programs through study of three countries; and secondly, sampling of specially significant aspects of the program. The team and individual members of it interviewed all kinds and manner of persons concerned with the many and varied aspects of the complex program. They talked at length with heads of state, with ministers of health, with directors general of health; but more particularly perhaps, with the people in villages, in slums, in the mountains, and on the plains, who had or should have felt the effect of the program. Anthropologists who had spent some years in Latin America, knowing its customs, knowing its people and its languages, helped in getting at these latter aspects of the analysis.

At the conclusion of the field phase of the study, the group gathered in Washington to pool ideas and experience. The Institute chiefs of field party, the men representing it in the various countries in Latin America, came to Washington and met with the evaluation team. For ten days there was free exchange of ideas and experience between the team and the field chiefs. This helped the team members to clarify their own views and to modify opinions gained in the field.

Following this conference each member of the team drafted the appropriate portion of the total report, taking into account all views expressed. These drafts were circulated among the members of the team, modified on the basis of comments, and were then collected and compiled by the Public Health Service.

It was in the nature of the Institute program that in both survey and report the spotlight should in large degree fall on the administrative device used by the Institute in its cooperation with other Governments, the Servicio. At times the study has been referred to as a study of the Servicio. It is not that, and was not

meant to be that. The fact that this administrative device was used generally, the fact that it is so thoroughly a joint administrative device and that it has worked well, has brought it, perhaps, into undue prominence in the report.

Perhaps, also, the report deals too little with the people who have come and gone during the decade, each making his contribution large or small to the total development. These people are many. They are well known in the countries in which they have worked--well known and respected for their keen sense of duty, high technical competence, and enthusiasm for man's progress. Most are unknown on the world stage, but loved by the people they served. Although many will be forced to rejoice in their service and accept anonymity, it is not possible to overlook the great leadership of Dr. George Dunham, who is truly the father of the program that is the subject of this report. At considerable personal sacrifice, he gave the program inspiring and untiring leadership. His name will live in the annals of international cooperation in health. He traversed the United States to participate in the Washington conference of the evaluation team with the chiefs of field party. He brought to that meeting, again, the fire of his enthusiasm and the sense of dedication to the troubles of others which made him the great leader that he was in this and other programs.

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A FOREWORD

When, in the summer of 1950, the Institute of Inter-American Affairs requested the United States Public Health Service to make a survey of the operations of its bilateral health programs in the countries of Latin America, there were compelling considerations back of the Service's ready acceptance of the invitation.

We were conscious of the fact that the fifth decade of this century had witnessed some extraordinary advances in international collaboration in the field of public health. Although these advances were partly due to the urgencies of World War II, they have continued into this decade. There is reason to think that when the history of these troubled times is finally written, the careful historian will see in the emergence of the cooperative health programs in Latin America a development of considerable significance in the Western Hemisphere's search for higher levels of health and stability.

The translation of an underlying cooperative spirit into effective action through a joint administrative device, the Servicio, marks a significant experiment in international cooperation in health. A will to work together has been coupled with a way to work together in the family of nations. The will and the way had, of course, existed before between governments and the great foundations. It has now come into action as between governments.

I know that the Servicio plan of furthering broad programs of international cooperation in the field of health has been in operation longer than many others. Thus, when in the tenth year of the development of these programs, the President of the Institute, Mr. Kenneth Iverson, and the Director of its Health and Sanitation Division, Dr. H. van Zile Hyde, suggested that the Public Health Service undertake an evaluation of a decade of the public health work by the Institute, it seemed to us a proper undertaking, even though we recognized the handicaps we would be under in attempting to evaluate the widespread work of the Institute.

THE SERVICIO IN PRINCIPLE AND OPERATION

The Servicio, as an administrative device, has stood out as one of the special and characteristic features of the Institute program. To characterize it is one thing. To attempt to trace and evaluate the operation of the Servicio in all its multiphasic detail and significance, is quite another.

Mr. Iverson[1] has supplied us with probably the best characterization of the Servicio:

"Servicio is the generic name of the administrative device through which the Institute works with the other American Republics in the execution of technical assistance or basic economic development programs. The Spanish word Servicio means service; it is also the synonym for government bureaus in the United States. A cooperative Servicio is a bureau or department of a ministry of a Latin American government, such as the Ministry of Agriculture, Public Health, or Education . . . .

"Although a Servicio is part of a ministry, it is autonomous in many respects. Its autonomy is derived from the authority vested in the director to determine, with the concurrence of the minister, the administrative procedure to be followed by the Servicio . . . The Latin American Republic is represented by the minister of the cooperating ministry and the Institute of Inter-American Affairs is represented by the chief of field party. The Institute sends to the American Republic such technicians as are required and names as the head of the group a chief of field party. The minister and the chief of field party are co-equals in developing the administrative techniques to be followed by the Servicio."

[1] The Servicio in Theory and Practice, Public Administration Review, Vol. XI, No. 4, Autumn, 1951.

The following report represents an initial step toward tracing and evaluating the operation of the Servicio in inter-American cooperative agreements. It is the first of its kind, and is, therefore, unique. In the time available the evaluation team was able to study only the major components of the bilateral programs in any detail. The team was made up, however, of specialists well qualified in their respective fields; and throughout the study the evaluation team had the full cooperation of the Institute's field party chiefs.

The evaluation, therefore, was a shared project in which the chiefs of field party and the evaluation team worked together in the field and later around a conference table in Washington. Their aim throughout, through the process of give and take in frank discussion, was to reach a consensus on the final report. I am assured that the report represents that consensus, and despite limitations in time and scope represents a significant contribution.

THE EVALUATION TEAM

The Public Health Service was fortunate in enlisting Dr. Wilton L. Halverson, Director of California's Department of Public Health, as head of the evaluation group. It was equally fortunate that the late Dr. Joseph W. Mountin, Assistant Surgeon General and Chief of the Bureau of State Services of the Public Health Service, could find the time and energy to participate actively in the survey and the discussions. The sudden death of Dr. Mountin was a severe loss to the evaluators in the preparation of the report, to the Public Health Service, and to the cause of international cooperation in the fields in which he had given a lifetime of service. The other members of the evaluation team were:[2]

Dr. John J. Bourke, Executive Director of the New York State Joint Hospital Survey and Planning Commission.

Mr. Earl V. Bradsher, Director of Welfare Administration for New York City and formerly a staff member of the Public Administration Service.

Miss Edna F. Brandt, Assistant Chief Nurse, Division of Chronic Disease and Tuberculosis, Public Health Service.

Dr. Mayhew Derryberry, Chief of the Division of Public Health Education, Public Health Service.

Dr. George M. Foster, Director of the Institute of Social Anthropology, Smithsonian Institution.

Miss A. Joan Klebba, public health analyst of the Institute of Inter-American Affairs.

Mr. Richard F. Poston, Officer in Charge of Western Gulf and Colorado Drainage Basins Office for Stream Pollution Control, Public Health Service, Dallas, Texas.

Dr. George K. Strode, formerly Director of the Division of International Health, Rockefeller Foundation.

The Public Health Service is appreciative of the assistance of the Institute staff in facilitating the work of the survey. Special mention should also be made of Mr. Howard Wheeler of the Public Health Service who contributed considerably in the compilation of the report.

Each chapter of the report deals with an aspect of the program considered to be a vital element of it. The chapters taken together give coverage to the great areas of activity of the program. There are gaps. Some are important and some are perhaps serious. Time limitations prevented gathering the ideal amount of survey data. The report as a whole, however, gives a picture of the program and sets out some guideposts. Incomplete as the study may be, it can serve, we believe, as a springboard for further accomplishment in international cooperation for the advancement of health.

Leonard A. Scheele

Washington, D. C.
April 15, 1953

Surgeon General
Public Health Service
Department of Health, Education, and Welfare

[2] Also see Appendixes "A" and "B".

CHAPTER 1.--BACKGROUND

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BACKGROUND

The actual launching of the cooperative health program of the Institute of Inter-American Affairs may be said to have occurred with the activation of its first bilateral agreement, the one consumated with Ecuador, in February 1942.

This inauguration of the program was in effect a projection of one of the decisions reached in the Third Meeting of the Ministers of Foreign Affairs of the 21 American Republics, held in Rio de Janeiro in January of the same year. In a resolution unanimously approved, the foreign ministers had recommended the use of the bilateral health agreements as an important instrument for furthering the security and prosperity of the nations of the hemisphere.

EARLY ACTIVITIES

Convened against the backdrop of World War II, the Rio de Janeiro conference stands out chiefly by reason of its achievements in line with a mounting concern for a solid hemisphere front in the face of the Axis threat. But, less conspicuously, it was expressive also of a movement which stretched much further back; a slow and more or less sporadic advance in international cooperation in the Western Hemisphere whose beginning had first become apparent in bilateral conventions for control of pestilential epidemics in the first half of the nineteenth century.

In the wake of these conventions, as the century was drawing to a close, had come the Committee on Sanitary Regulations, created by the First International Conference of American States, in Washington, D. C., in 1889-90. The first half of the twentieth century had witnessed the emergence of the worlds first international health organization in the establishment of the Pan American Sanitary Bureau, in 1902; a series of 13 Pan American Sanitary Conferences, beginning in the same year; the signing of the Pan American Sanitary Code of 1924 and its provision making the Pan American Sanitary Bureau the central coordinating health agency of the 21 subscribing states; and, concurrently with the expanding activities of the Sanitary Bureau, the Conferences of National Directors of Health, alternating with the Pan American Sanitary Conferences in meetings in Washington every four years.

The hopes and plans of the far-sighted in the field of public health were further translated into concrete measures when the foreign ministers came together in Rio de Janeiro at the beginning of 1942. It could have been that the urgencies of defense accelerated an already definite movement. At any rate, the bilateral health device was recognized and recommended as a means for closer ties and more effective inter-American cooperation.

In the United States, an outstanding figure in the field of inter-American relations had long been that of Nelson A. Rockefeller. Even before the Second Meeting of Ministers of Foreign Affairs in Habana, in July 1940, he had sponsored a memorandum to President Franklin D. Roosevelt entitled "Hemisphere Economic Policy". This memorandum was to result in the creation of the Office of the Coordinator of Inter-American Affairs, under which the Institute was later to be set up.

Mr. Rockefeller had intimate knowledge of the activities of the International Health Division of the Rockefeller Foundation. A few years after its establishment in 1913 the Foundation had begun promoting public health, the medical sciences and the natural sciences in the foreign field. Methods employed had included the giving of fellowships, grants-in-aid, scholarship grants and the establishment of special services within the structure of host governments.

Among Latin American countries the Foundation had placed particular emphasis on the training of nationals in public health and allied fields. Many Latin Americans trained with its aid had risen to

influential posts in the health organizations of their countries. They were available to help in forming the nuclei of trained personnel when a program of cooperation through bilateral agreements between the United States and its neighbor nations was launched.

Out of Mr. Rockefeller's experience and first hand observation, therefore, had come appreciation of the importance of health programs in efforts for attainment of higher economic levels in the countries of Latin America.

With Pearl Harbor and the subsequent inauguration of the first bilateral program, health in its relation to supply of vital war materials became a matter of immediate and grave concern in measures for defense of the Western Hemisphere. When in March, 1942, the Institute became a corporate actuality, bilateral health promotion was placed high on the list of major programs.

THE FIRST TEN YEARS OF THE BILATERAL HEALTH PROGRAMS

The inauguration in 1942 of the bilateral health programs of the Institute of Inter-American Affairs marked an entirely new departure in United States foreign policy implementation. While evaluation must take into account the emergency conditions under which the programs were launched, it must also reckon in a purpose extending beyond solution of pressing war-created problems. The record clearly indicates a long range objective, the attainment of which would mean inter-American cooperation as a permanent contribution to global equilibrium.

The Mechanism

Planning of the bilateral programs had been from the premise that the administrative mechanism of the existing multilateral, national or private philanthropic organizations could not be adjusted to take care of the new foreign-political-technical work seen as necessary for the solution of critical economic, food and health problems identified as obstacles in the way of attainment of either the immediate or long-range goals. Although the activities of the inter-American system, both governmental and private, had prepared the way for the new programs, it became apparent that a new governmental device would be necessary. Out of this need the program took form.

The mechanism devised had two major parts:

1. A corporation in Washington to be known as the Institute of Inter-American Affairs.

2. A unit in one of the ministries of the host government, generally to be called the Servicio, to plan and carry out or assist in developing the projects which would constitute the program in the host country.

These two parts of the mechanism were put and held together by the interchange of diplomatic notes on the subject of the cooperative program, and by subsequent instruments known as "Basic Agreements" between the representative of the Institute and the minister or other designated officer of the cooperating host government.

In the early planning for the health programs, Mr. Rockefeller had made the decision that the administration of health activities should not be carried out directly by CIAA but by a subsidiary corporation. This decision was based in large part on the experience of the International Health Division of the Rockefeller Foundation whose years of work had demonstrated the value of placing foreign programs on as flexible a basis as possible without loss of essential administrative control.

The Bilateral Agreements

The Institute's programs were activated from the beginning by agreements entered into with governments of the neighbor nations. After a decision was reached in consultation with the Department of State, that the establishment of bilateral work was desirable in a given Latin American country, this fact was communicated to

the United States Ambassador to that country. After a preliminary authority was given to establish bilateral work, the final authority was usually established through exchange of diplomatic notes between the United States Ambassador and the host government. This was generally followed by so-called "Basic Agreements" made between the representative of the Institute and the Minister of Health or a designated officer of an appropriate ministry in the host government. Agreements were in most instances for specific periods of time. At the beginning two or three years were usually specified. During the postwar let-down, agreements for only one year were made. After 1950, the term was usually five years, with funds committed for only one-year periods.

The Servicio

Under the agreements, both parties provided contributions "in accordance with availability of raw materials, services and funds," and usually agreed to the establishment of a unit in the host government that came to be known as the Servicio.

Before the end of 1942, Dr. George C. Dunham, the First Director of the bilateral health work, had supervised the successful establishment of programs in eleven countries. In order of establishment, they were: Ecuador, Haiti, Paraguay, Costa Rica, Nicaragua, Honduras, El Salvador, Peru, Brazil, Guatemala, and Bolivia. In 1943, programs were established in seven more--Colombia, Panama, Venezuela, Chile, Mexico, Dominican Republic and Uruguay.

Due to limitation of funds, the programs in Nicaragua, Costa Rica, and the Dominican Republic were terminated in the middle of 1947. The program in Panama was terminated in September, 1945. All these programs, except that of the Dominican Republic, were reopened early in 1951.

The agreements usually provided that the Institute would send to the cooperating country a small Field Party of professional and technical personnel, including usually a physician, engineer, and nurse. It was also usually provided that the chief of this field party would not only represent the Institute, but would also be the director of the Servicio in the host government, subordinate to the Minister or other designated officer in the cooperating Ministry.

Under the agreements, all work undertaken was to be broken down into projects and before these were started a project agreement was to be signed by both the chief of party as representative of the Institute and by the designated officer of the local cooperating ministry. This arrangement was to encourage joint planning as well as joint financing and execution of all work undertaken.

Preponderance of Latin Americans in Program Personnel

The Servicios were staffed primarily by nationals of the countries with which the Institute was cooperating. This was in line with a general policy of holding down United States personnel and of employing as many Latin Americans as possible in local operations. The purpose was not only the utilization of nationals, but, through in-service training to give professional personnel necessary experience in the maintenance and operation of the projects, all of which by agreement were to be turned over in time to the host country.

As early as February 23, 1943, the estimated ratio of United States to host country technicians in the field programs was one to 25. By the middle of 1945 there were employed 223 United States citizens (including 30 physicians, 52 engineers, 11 architects, and 36 nurses) and 12,278 national personnel (including 356 physicians, 135 engineers, 172 registered nurses, 1,495 other technical and clerical personnel, 1,202 practical nurses or sanitary inspectors, and 8,918 workmen.) During the war years most of the United States physicians and sanitary engineers were assigned from the Office of the Surgeon General of the Army. As of June 1952, the number of Latin Americans working on the health programs totalled 7,134 and

the number of United States personnel in the field parties and the Technical Pool, 119. Included were 462 Latin American and 15 United States physicians and dentists; 298 Latin American and 20 United States graduate nurses; 94 Latin American and 26 United States sanitary engineers; 59 Latin American and 11 United States civil and other engineers; and 40 Latin American and four United States health educators.

Program Supervision

The chief of field party was given very broad authority to develop and to carry out the program in terms of projects worked out with the minister of the host country or his designated officer. This was in pursuance of a policy of decentralization, and development of local field programs under a system by which all projects for a country would be determined locally by joint agreement.

One of the advantages of this policy that appealed strongly to Dr. Dunham was that it would operate to allay the expressed fears of "invasion of sovereignty." Some general policy lines were kept in view even in the earliest days, however, by the frequent visits paid to the Servicios by Dr. Dunham and other members of his staff. In 1948 a Technical Pool, of always less than ten persons, was created as an additional arm of the Washington office. The President of the Institute and his immediate staff also made field trips for evaluation of accomplishments. Additional supervision and evaluation of operations were also provided for through analysis of required periodic field reports, and of project and completion agreements on every unit of work undertaken.

Funds

From the creation of the corporation in March 1942, the United States Government financed its role in the bilateral health work by allocation of funds to the Institute. For the entire period up to and including June 30, 1951, the major categories and amounts of disbursements by the Institute, with contributions by the governments party to the agreements, are shown in the following tabulations.

TABLE 1.--Special[1] and cooperative health and environmental sanitation projects in Latin America through June 30, 1951 by number and estimated cost of projects.

Class of projects	Number	Estimated cost
ALL PROJECTS	1,665	$103,015,915.56
Special projects[1]	[2] 125	3,382,965.00
Cooperative projects	1,540	99,632,950.56

[1] "Special Projects" include all projects that were financed directly by the Institute of Inter-American Affairs. These projects did not constitute a part of the country programs that were financed and executed by the Servicios in the host countries.

[2] This figure is an approximation based on numbering system used for special projects.

TABLE 2.--Cooperative health and environmental sanitation projects in Latin America through June 30, 1951, by country, number of projects, and estimated cost of projects.

Country	Number	Estimated cost of projects
ALL COUNTRIES	1,540	$99,632,950.56
Bolivia	105	4,802,122.52
Brazil	349	26,391,059.19
Chile	44	9,082,780.21
Colombia	75	8,961,382.04
Costa Rica	43	1,038,147.54
Dominican Republic	24	571,436.34
Ecuador	138	6,860,722.44
El Salvador	127	3,005,913.45
Guatemala	38	6,195,365.54
Haiti	89	2,414,260.86
Honduras	69	2,958,580.86
Mexico	125	8,366,374.38
Nicaragua	68	1,029,254.01
Panama	29	684,608.97
Paraguay	39	2,987,762.12
Peru	50	5,872,413.00
Uruguay	31	1,415,517.47
Venezuela	97	7,025,249.13

TABLE 3.--Major categories of projects carried out by the cooperating host countries in Latin America and the Institute of Inter-American Affairs in the field of health and environmental sanitation through June 30, 1951, by number and estimated cost of projects.

Categories of projects	Number	Estimated cost of projects
Categories of projects	1,540	$99,632,950.56
1. Cost of administration, rent, equipment, etc., of officers of Servicios	134	18,332,724.40
2. Projects to strengthen directly indigenous national and local health services (administration buildings, laboratories, equipment, technical assistance, etc.)	66	3,398,922.07
3. Training facilities and training programs	118	4,648,556.81
4. Hospitals, health centers, and other medical facilities and services (construction and operation)	431	36,744,967.57
5. Special disease control (including malaria control by drainage)	220	12,161,739.54
6. Medical care programs for highway workers, rubber workers, etc.	31	974,507.24
7. Environmental sanitation (water supplies, sewage disposal facilities, markets, slaughterhouses, etc.)	494	21,014,845.10
8. Health Education	19	789,307.35
9. Industrial hygiene-surveys and studies	2	294,105.93
10. Nutrition (construction, equipment, and operation)	6	458,461.23
11. Public Health Statistics	1	566.21
12. Special medical research	2	6,287.07
13. Social welfare (construction of buildings, playgrounds)	7	90,349.89
14. School health program	1	5,723.18
15. Miscellaneous (including matching projects undertaken by Venezuelan Government)	8	711,886.97

TABLE 4.--Program funds available to the 18 Servicios in Latin America for cooperative projects from the beginning of the programs until June 30, 1951, by total amounts and amounts contributed by host countries and by the Institute of Inter-American Affairs.

Country	Total	Contributed by the host countries[1]	Contributed by Institute of Inter-American Affairs
ALL COUNTRIES	$107,050,606.01	$67,316,421.24	$39,734,184.77
Bolivia	4,852,112.52	2,967,112.52	1,885,000.00
Brazil	31,357,520.55	22,692,520.55	8,665,000.00
Chile	9,208,430.05	3,808,430.05	5,400,000.00
Colombia	9,580,396.22	7,472,395.42	2,108,000.80
Costa Rica	1,199,257.86	359,382.86	839,875.00
Dominican Republic	575,000.00	175,000.00	400,000.00
Ecuador	7,074,431.08	3,547,931.08	3,526,500.00
El Salvador	3,115,504.84	2,150,504.84	965,000.00
Guatemala	6,196,732.63	5,146,732.63	1,050,000.00
Haiti	2,475,521.16	1,387,521.16	1,088,000.00
Honduras	2,989,710.72	2,014,710.72	975,000.00
Mexico	8,591,081.50	3,391,081.50	5,200,000.00
Nicaragua	1,119,582.37	269,582.37	850,000.00
Panama	736,808.97	175,000.00	561,808.97
Paraguay	3,026,366.81	1,376,366.81	1,650,000.00
Peru	5,936,170.66	3,691,170.66	2,245,000.00
Uruguay	1,727,298.76	1,002,298.76	725,000.00
Venezuela	7,288,679.31	5,688,679.31	1,600,000.00

[1] Includes financial contributions by state and local governments and philanthropists in host countries, but does not include $6,552,171.01 contributed by host government in other than cash (buildings, land, etc.).

The flow of program funds was determined, in the first instance, by the Basic and Extension Agreements and, secondly, by the individual project agreements signed by both the representative of the Institute and the Minister of Health or other designated officer of the host government.

Although the total figures give some indication of the project patterns in all of the countries there was also considerable variation from country to country. Projects in Ecuador, for example, were primarily in hospital construction in the early part of the program, and later were primarily to augment water supply. Panama's first program was almost exclusively malaria control. During the first year, construction of water supplies was emphasized in Mexico, but later a wide program including health center organization and construction was developed. The reasons for these shifts in emphasis also varied from country to country.

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CHAPTER 2.--CULTURAL ASPECTS

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CULTURAL ASPECTS

The development of successful public health programs depends not only on the technical excellence of medical knowledge and practice, but also on the socio-economic potential of a country, and the readiness of its people to accept new ideas and habits. The economic handicaps under which public health programs in Latin America must operate are obvious; they are a function of the relatively low productivity of these countries, and can be ultimately solved only by an improved economy and a consequent rising standard of living.

There are other problems with which public health programs must cope, and which for want of a better term may be called cultural problems. They stem in part from the great differences which exist between the ways of life and thought patterns of the people toward whom Servicio programs are directed, and those of the planners of public health programs, and in part from lack of understanding of the factors which make for the most effective human relations in any given situation.

In an evaluation survey of the bilateral health programs of the Institute of Inter-American Affairs, therefore, this meant that the evaluators must understand the ways of life, the value standards, and particularly the beliefs and customs of the Latin American people with respect to health and illness, and that they must know also the motivations of both Servicio personnel and the peoples toward whom the programs are directed, and their attitudes toward each other. The following is a summary of findings, analyses, and areas of agreement.

THE SCIENTIFIC APPROACH

Cultural problems cannot alone be solved by the hiring of friendly, understanding, well-meaning personnel. They must be studied and analyzed with the appropriate scientific methods in much the same way that a difficult medical problem is subjected to scientific examination to find the solution. Recent research in the social sciences has made available both data and techniques which make possible a more efficacious attack on these cultural problems than would have been possible when the IIAA first commenced operations. The work described was carried out by cultural anthropologists.[1] They were included in the survey because they were the social scientists of the United States who had given most attention to studying Latin American contemporary cultures, to finding out the way of life in the several countries, and to analyzing the relationship of the individual to his culture. But in any long-range program of cultural analysis other social scientists, particularly sociologists and social psychologists should also be called upon.

At the chiefs of party conference a single recommendation was made with respect to cultural problems:

"Knowledge of the people is just as important in many aspects of a public health program as is knowledge of medical science. It is therefore recommended that in Institute of Inter-American Affairs program planning, provision be made for systematic research into the form and content of the cultures of each country in which work is carried out. Such research should include anthropological, sociological, psychological, and economic studies. It is further recommended that the information so obtained be utilized in planning and operation of Servicio projects, both to determine the economic and social potential of a country which sets absolute limits on the changes which can be brought about, and for the purpose of reducing to the lowest possible level cultural barriers to general acceptance of public health programs."

[1] The following personnel of the Smithsonian Institution's Institute of Social Anthropology carried out the research: Charles Erasmus, Colombia and Ecuador, George M. Foster, El Salvador and Chile; Isabel T. Kelly, Mexico, Kalervo Oberg, Brazil; Ozzie Simmons, Peru and Chile. The substantial help of Dr. Greta Mostny in Chile must also be acknowledged.

Dual Role of the Social Scientist

This recommendation, though general, emphasizes the dual role in which the social scientist was found to be of use: his participation on the original planning level, and subsequently on the program operational level. The planning role stresses the necessity of finding out what the nature of a culture is, what is the way of life of the people, what are the motivations that make them do the things they do, what are their goals in life, what is important to them, what they are willing to strive for, and, conversely, what are the aspects of life that to them mean very little, or which they fail to understand. For good planning it is almost essential to understand in considerable detail the whole cross section of the way of life of the people of a country in order to know what are the practical limits to any program that can be put across. What are the people willing and able to accept? What will they reject? What are the social and economic conditions which must exist before certain innovations can be introduced into a culture? If necessary, how can these conditions be brought about?

The second aspect of the social scientist's role is that of the educator. After determination of the most practical public health program for a given country or area, how can the people be convinced that it really is best for them, that it is in their interest to adopt the new and abandon the old?

Two basic propositions, which are implicit in this recommendation, guided the research of the anthropologists:

1. Cultures are integrated functional wholes. Public Health programs should be planned and analyzed in relationship to and as one aspect of these wholes.

2. There are definite though imperfectly understood rules of human behavior which govern the processes whereby changes are brought about in culture. Specifically, popular resistance to public health programs can be scientifically studied, and methods developed whereby these resistances can be greatly reduced.

Anthropologists were the first social scientists to formulate the hypothesis that the way of life of a people is an organic, functional total complex. If the analogy is not carried too far, a culture may be compared to a biological organism in that each of its parts is related in some way to all other parts. Each part fulfills a definite function in relationship to the other parts, and contributes to the normal functioning of the body as a whole. Each part, in turn, draws upon all other parts in some way for its own continued existence.

Putting this in terms of a public health program, it simply means that health and sanitation are not isolated parts of the life of a whole people. They are related to education, to social security, to economic productivity, distribution of income, city planning, and a great many other things. Changes in the level of health in any given place may result from improvements in the aspects of culture just mentioned; conversely, changes that can be brought about by planned activity are limited by and dependent upon the changes that simultaneously are occurring or can be brought about in these related aspects.

An Exploratory Project

It is possible, the anthropologist believes, to bring about only limited changes in any aspect of culture without accompanying changes in the other aspects of the culture. It is impossible, he believes, to take a very backward country or area and introduce into it a first-class public health program. A specific Institute health project in a Latin American country illustrates this point.

Planning was carried out with greater care and thought than in many other cases. There was recognition that a successful public health program depends to a very considerable extent on raising the general economic level of the people. There was recognition that training in home economics and practical farming were integral factors which would contribute to the success of the program. It was decided, therefore, to work in an area where it would be possible to have the cooperation

of another agency which was carrying out grass-roots work in agriculture and home economics. Experimental gardens were set up. Training in home economics was introduced. A health post was established, and arrangements were made to bring a doctor and nurse several times a week to this small village both for preventive and curative medicine.

Nevertheless, in spite of such planning--excellent as far as it went--there were certain cultural characteristics in this village which become apparent when the total or over-all analysis is made, and which raise doubts about any great permanent degree of success as far as some of the main projects are concerned.

The keystone of the environmental sanitation phase of the work consisted of a privy campaign. Slabs for pit privies were cast locally, and given to each of the 100-odd houses in the village. It was expected that with this preliminary aid, within several months most of the slabs would be in place in back yards, the cost of installation borne by the householder. Nevertheless, six months later less than half the slabs had been put in use. The majority were still lying against the front of the houses where they had been placed, overgrown with weeds, and non-existent as far as the householders' thoughts were concerned. What were possible reasons which explain this situation?

A census of this village of 600 people was made, and the following facts came to light: The village was highly unstable in terms of social organization. About half the inhabitants had lived there for five years or less. They did not consider themselves to be really permanent members of the community, but rather were migrating from one part of the country to another, and simply had stopped off temporarily while awaiting the opportunity to move on. They felt no attachment to the community, no stake in its future, and had no interest in making capital investments in something they might not be around to enjoy. A measure of the social disorganization of the village and of the transitory nature of the population was the fact that five professional prostitutes plied their trade, an unbelievable figure in comparison with the average settled Latin American village.

Level of income likewise was depressed. Land was marginal, wages were low, and nearly everyone must think carefully about each expenditure, weighing alternative purchases to determine maximum enjoyment or utility. The least expensive houses in this village were worth from $18 to $35. Instructions for building privies were fairly precise, the cost was about $10. This meant that people, who knew very little about environmental sanitation, who had nothing in their cultural background to make them understand or realize the importance of pit privies, were being asked to make an investment of from 25 percent to 50 percent of the total value of their homes. It became quite obvious that most of these lower income families could in no way be persuaded to make an investment of this magnitude.

From the census it was also discovered that a considerable number of people in this community lived rent-free in the homes they occupied. The owners were away for extended lengths of time, or had migrated to other places but had kept their old homes. In order to have their property cared for they permitted relatives or friends to occupy the dwellings. Since the actual inhabitants were not the owners, and might be put out on a moment's notice, they were unwilling to spend a relatively enormous sum to build a privy. And since the owners were absent they had little incentive to make such a capital investment when they would not be around to take advantage of it.

Problems of Education

Once it is decided what type of public health projects will work in a given place, what is compatible with sociological and economic possibilities, what will have maximum effectiveness in raising general health standards, the problem remains of convincing the subjects. The planners' ideas as to what is necessary for good health frequently and perhaps usually do not correspond with the felt needs of the people. An important and difficult job of education must be carried out.

The essential problem is this: How is it possible to get the idea across to the recipient peoples that modern medicine and hygienic living are a form of personal health insurance that will keep the individual in better health, make him live longer, and make him able to work more efficiently and enjoy life more fully? How can people who consider much of illness to be due to magical causes or divine will be made to understand scientific concepts of disease, of germs, and made to act accordingly? How can such people be persuaded to take elementary health precautions to avoid disease, to come to the doctor at the first sign of illness, to follow closely his prescribed treatment, and to avoid the native curandero and associated folk remedies?

Fundamentally the problem is one of persuading people to drop old habits and ideas and to substitute for them new ones which heretofore have formed no part of their conceptual world. The public health specialist is not operating in a vacuum; his subjects do not feel he is bringing light on a problem about which they know nothing. Rather, he is working in an area in which the subjects already have definite and hard-to-shake beliefs which they are as convinced are correct as he is certain they are mistaken. They are not at all sure the doctor's ideas are better than those of the curandero; in many cases they are convinced they are inferior.

Before attempting to answer some of these questions, the evaluators surveyed the working techniques used by the anthropologists in gathering their data.

The health center was taken as the focal point of a majority of the analyses. Anthropologists interviewed the directors of these centers, the doctors, nurses, sanitary engineers, sanitarians, and nurse's aides. They sat in the doctor's room for periods up to three hours, observing his normal techniques with a variety of patients.

Nurses were observed in similar fashion. Home visiting nurses were accompanied on many occasions, they were studied at BCG posts where they vaccinated against tuberculosis, at "mothers' clubs" where pregnant women were given instruction, and at volunteer workers' training sessions.

Operations of Servicio hospitals were observed. Random sampling on a door-to-door basis of populations within the area of health centers was done to find out a cross section of public opinion with respect to Servicio projects.

Health education programs were studied, and limited experimental work in health education was carried out. Tests were given in nursing schools to determine the extent of retention of erroneous folk belief among nursing students.

Use was made of the (usually) rather poor statistical data available.

Informants were "worked" in typical ethnographical fashion to formulate the basic patterns of folk belief concerning health and disease.

The types of data gathered embraced a rather full description of folk medicine in the seven countries studied, including information on the types of illness for which patients will consult doctors, and those which they prefer to take to the curandero, or treat with home remedies; a good knowledge of health center operations as they impinge upon patients; information on attitudes of patients, potential patients and former patients toward centers and hospitals, and the medical profession in general; attitudes of doctors, nurses, sanitarians and other personnel to their jobs, to each other, and to patients, and their ideas of their problems. Statistical data showing the extent to which Servicio programs were patronized were analyzed, as were data on community organization and the possibilities of stimulating better organizations as an aid to public health programs. Very significant information on the relationship between curative and preventive medicine, as they bear upon public health problems, was obtained.

From the masses of field notes several general categories of data emerged. Those

selected by the evaluation team as bearing directly upon the objectives of the survey were:

1. Interpersonal Relations
2. Relative Emphasis on Curative and Preventive Medicine
3. The Nature of Folk Medicine
4. General Cultural Factors which Impinge Upon Public Health Programs

These were discussed in the order listed. The findings, in substance, were as follows:

INTERPERSONAL RELATIONS

In all countries observed it was apparent that genuinely sympathetic relationships between doctors, nurses, and other Servicio personnel on one hand, and patients on the other hand, are essential for smoothly functioning programs. If the interpersonal relationships are good, an average or mediocre program, as far as planning is concerned, can be highly successful; conversely, the most brilliantly conceived program amounts to very little if interpersonal relationships are poor; if the program is administered in a mechanical manner; if the people who carry it out are not genuinely sympathetic toward the needs and problems of the people they are supposed to be helping. This observation sounds more like an obvious truism than the result of scientific analysis; it is made because, obvious as it may be, many Servicio programs are falling short of their potential because of poor interpersonal relationships between staffs and patients.

The Importance of the Public Health Nurses

How, then, can good interpersonal relationships be achieved? This is a complex problem which admits of no easy solution. In part it is due to the rather rigid concepts of class and caste which prevail in Latin American countries, with culturally determined modes of contact between different classes. In part it is due to lack of education on the part of the masses, to innate fear and suspicion toward members of other groups. In part the solution will come as these social barriers which pervade all life are broken down.

There is one key, however, which holds out great hope for the immediate future. Without exception the anthropologists were impressed with the importance of the role of the trained public health nurse, the university graduate. This was the case in Mexico. It was true in Salvador, in Ecuador, in Chile, in every country from which information was available. A most important factor making for the success of a public health program was seen to be the availability of the greatest number possible of graduate public health nurses. Even when the attitude of the doctors is cold and unfriendly--as is frequently the case--good public health nurses can do much to overcome this handicap.

In a Servicio center in a large capital city, for example, many of the interpersonal relationships within the building were noted to be poor; attitudes of some doctors observed were very unfeeling. Nevertheless, a competent group of public health nurses had succeeded in establishing themselves as friends of the people. When they made home visits children spotted them at a distance and ran with the news to their mothers, who greeted the nurses at the door with a smile and warm reception. Mothers regarded the nurses as real friends, not just as nurses, and as their buffers against the cold formality of the center itself.

The Need for Nursing Schools

Naturally there are great differences between nurses who have had identical training. In one city in Chile a nurse was observed who simply lacked instinctive talents. She entered each home with the idea that she must find something to criticize, to show her authority and knowledge, regardless of how well the mother was cooperating. Nevertheless, the great majority of Latin American public health nurses who are graduates of good schools are excellent in their interpersonal relations with patients.

Though visitadoras, nurses' aides, often with as little as four years of basic education, were not observed to the same extent as were the nurses, it was felt that they functioned far less successfully. Often they knew little more than the people they were trying to help; they were timid, unsure of themselves, lacking in basic education, and unable to inspire much confidence. Faith in their ability on the part of professional personnel generally was low, nurses saying they must be closely watched all the time, and doctors saying their turnover was high because of low salaries and because after learning a little the visitadoras would go into business as inyecoionistas, dispensers of hypodermic injections.

The anthropologists felt that every reasonable effort should be made to stimulate the development of more nursing schools, that perhaps even more emphasis should be placed on this aspect of Institute activities than in the past. A question has been raised as to whether visitadoras should be eliminated entirely. The answer to that, the evaluators concluded, is that practical necessity dictates their continued use. If greater attention is given to the educational and cultural background of future visitadoras, and if their training is planned accordingly, it is probable that their effectiveness can be considerably increased. Good use appears to be made of them in Brazil, for example. Nevertheless they can never be more than a poor substitute for a well-trained nurse.

PREVENTIVE VS. CURATIVE MEDICINE

The problem of good interpersonal relations between Servicio staff members and patients is also linked, the evaluation team agreed, with the question of relative emphasis placed on curative versus preventive medicine. When the initial studies were made in Mexico, Colombia, Peru, and Brazil, significant differences in the quality of these relationships were noted. To illustrate, in Brazil it appeared that there was a closer understanding between staff members and patients than in Peru. The first hypothesis advanced to explain this situation was rooted in the question of class structure. In these Latin American countries with considerable Indian populations it was observed that educated city people tended to look upon the less fortunate, and particularly Indian groups, as beings from another world incapable of being assimilated as useful members of national life. At first glance it seemed as if in those countries where these conditions prevailed the quality of interpersonal relationships was generally poor.

Following subsequent work in Salvador, Ecuador, and Chile it became apparent that this tentative formula did not hold. In Ecuador the social gulfs were about as marked as in any American country, and yet doctors and nurses on one hand, and patients on the other, appeared generally to get along well. Tensions and frictions seemed much less marked than in Colombia, where the socio-economic level was much higher, and class differences less marked. The tentative hypothesis of anthropologists--and it should be further tested--is that in those countries where there is frank recognition that for a long time to come curative medicine must be an integral part of any public health program, relations between staff members and the public are good. Conversely, in those situations where curative functions are grudgingly accepted by the Servicio authorities, or avoided entirely, interpersonal relations are poor, and public health programs are much less successful.

Whatever the merits of a public health program based on preventive medicine, the fact remains that the average Latin American is interested in doctors and nurses because they can cure his ills. In most cases he avails himself of Servicio services, not primarily to keep well, but to get well. A survey of 100 families was run in the area of the Beatriz Velasco Aleman Center in Mexico City to find out who patronized the center, and why. Half of the people interviewed had never been to the center. Of the approximately 50 families that had gone, 25 went because they had a sick child that needed attention. An additional one-fourth went because they could get free milk. A number of others went because they needed chest X-rays or other clinical services. Only

three or four gave as their main reason for going their desire for a routine check of an infant. Conversely, one of the principal reasons why mothers had not taken their children was the fact that they were well, and why should one take well children to see a doctor?

Indigenous Concepts of Sickness and Health

This reluctance to seek or accept medical advice when apparently well is deep-rooted in Latin American concepts of well-being. Health, it is thought, consists in feeling well; it is not possible to be ill if one feels well and has no evident symptoms of disease. Since sickness is due to sins of omission or commission, or to fate or luck, there is very little a well person can or ought to do to keep himself well, at least as far as a doctor's attentions are concerned. Treatment is sought when a person falls ill, and often there is apathy to doing anything until a person is quite ill.

This feeling about health all too common with the uninformed, is akin to the concept of machinery maintenance: If a machine runs well, obviously it is in good condition and needs no attention; it is clearly logical to repair it only when and if it breaks down, when it ceases to function properly. With such a point of view periodic check-ups simply have no logical reason or explanation in the minds of the people; they feel they are doing the center a great favor in keeping appointments, rather than that they are being helped. There seems to be no stimulus sufficiently strong at this time to keep well people coming to health centers, unless certain concessions toward what the people believe they need are made.

Persuasion by Demonstration

Moreover, there is a deep-seated distrust of the motives and knowledge of doctors in much of Latin America. Many people feel that the native curandero knows more than a physician, that doctors are conceited but actually know very little, and everyone can and loves to tell examples in which the doctor failed and the curandero effected a cure. At the same time, the average Latin American is pragmatic by nature. One of the reasons why Servicio programs should also stress curative medicine is that it is about the only way the doctor can show the patient that he knows what he is doing. To illustrate, in Temuco, Chile, a bad whooping cough epidemic started in 1951. Fortunately health authorities were in a position to vaccinate a large number of children and arrest the spread of the epidemic in a graphic fashion. There is no doubt in the minds of most mothers in that town that the doctor is a good man to know when whooping cough threatens. And this faith spreads to other inoculations as well; BCG vaccinations are being carried out with a high degree of cooperation from all.

A similar case was noted in Quito. As in much of Latin America it is believed that fresh air is dangerous, particularly for new mothers. Many complaints against the new Servicio maternity hospital in that city were believed to stem from the fact that there is too much fresh air. But even more people remarked, "Fresh air is dangerous, but there is plenty of it at the Maternidad and it seems to harm no one, so maybe after all it isn't dangerous." Similarly, new mothers were sent home after a stay of about five days, whereas the culture pattern dictated that the mother should remain in bed up to two weeks. There are criticisms of this short stay, but again the remark was heard that the Maternidad mothers had more and better babies, with no apparent harm to mother or child, so perhaps the doctors knew what they were doing. In this way educational work, essential to any public health program was being carried on in the most forceful manner, mothers being given a service they want, and healthier babies resulting.

The satisfaction of the patient in receiving a public health service which he or she wants, and the satisfaction of the doctor and nurse in offering a service the public desires, seem to have promoted an atmosphere in which suspicion and tension have been reduced to a minimum, and in which really good preventive measures, as a consequence, can be effected. In the Cerro Baron Center, Valparaiso, Chile where recognition that

curative is just as important as preventive medicine was developed and where no sick child was ever turned away, more than half of the visits were "well baby" visits, visits in which the mother brought the child for a routine check-up. By catering to the felt needs of the people--helping them when they are ill--the doctors and nurses were able to persuade a sizeable portion of their clientele that it was a good idea to take preventive measures even though an individual was perfectly healthy.

If the premise is accepted that in the long run better world health will come from preventive medicine, the fact must also be recognized that a sizeable amount of curative services must be available to develop the conditions essential for a preventive program.

THE NATURE OF FOLK MEDICINE

The anthropologists felt that if Servicio personnel were better acquainted with prevailing concepts and practices of folk medicine, many opportunities would present themselves to contribute to the overall effectiveness of programs; that while there is no single integrated theory of disease, there are certain common themes and patterns which are so general as to form a framework within which local variations can be studied. These ideas of health and illness are the end result of a long period of fusion of two currents of thought: the native American Indian concept of the universe, and man's place in it; and the ancient medical heritage brought to the New World by the Spaniard.

Heritage of Hippocrates

It has come as a surprise to many that probably the single largest element in the total body of belief in Latin America is that which has come down through two millenia from the humoral pathology of Hippocrates and Galen. Health resulted, according to that theory, when the four humors--blood, phlegm, yellow bile, and black bile--were in proper proportions in the body. This balance was maintained by an even distribution within the body of the four elements, each of which was characterized by opposing qualities of heat, cold, moistness, and dryness. This concept, with subsequent modifications and elaborations, reached Spain and Western Europe via the Arab World, and was transmitted to Hispanic America after the Conquest, where it remained the basis of medical classification and teaching until the 18th century. Selected aspects of this theory--particularly the concept of heat and cold as qualities of the body, of types of illnesses, and of foods and herbs--became part of the folk belief of most peoples. General concepts of "humors" have also prevailed.

Hence, there has come to be a widespread tendency to explain much illness in terms of "heat" or "cold," which do not necessarily correspond to actual temperatures, but which are innate qualities of substances. Pneumonia, for example, is often classified as a "cold" disease, while typhoid fever may be "hot." Correspondingly, foods are frequently classified as "hot" or "cold," as well as herbs and other remedies. In Xochimilco, Mexico, for example, some of the "hot" foods are sugar, honey, green chili pepper, brandy, black coffee, human milk, garlic, peanuts, onions, and salt. "Cold" foods are rice, spaghetti, potatoes, most meats, beans, most leafy vegetables, most fruits, coffee with milk, and chocolate. Lists differ in each place in Latin America; there is no universal agreement as to what is "hot" and what is "cold." Nevertheless, in most places the idea exists, and has as a concomitant the feeling that a "hot" illness, i.e., one with a "hot" cause or symptoms, should be treated with "cold" medicaments and foods.

The "hot" and "cold" distinction provides a scheme for defining under what conditions certain foods can be eaten, what the results will be if the scheme is violated, which remedies can be used for which illnesses, and what the results will be if these rules are transgressed. In short, it appears that "hot" and "cold" distinction provides a general framework of do's and dont's for much of popular medicine.

The "Clean Stomach" Belief

A second common belief is what may be called the "clean stomach," the idea that periodic cleansing of the stomach and intestinal tract by means of strong physics is essential to health. The common Latin American practice of taking a physic every three or four months is rooted in this concept. This belief also seems to be associated with the idea that the liver is a chief source of illness, and that purification of the blood is essential to recovery or maintenance of health. The relatively high proportion of digestive upsets among informants quizzed suggests the reason for preoccupation with the stomach, and also explains the extraordinary number of herbal remedies which "wash the stomach clean." Preoccupation with the blood is also exhibited in the general belief that extraction of blood for venereal or other tests weakens the patient, and explains why in some communities health authorities making periodic checks on children have been run out by irate parents.

Causative Beliefs

In each country or area studied, folk medicine was found to have a core of principal illnesses, often with picturesque names, none of which have exact equivalents in modern medicine. Each illness has a recognized cause or causes, symptoms, and cure, and can be described in the same way the medical practitioner describes the etiologies, syndromes, and cures of the diseases recognized by modern science. Some "folk" causes may be said to be "rational," in that they are explained on the basis of the body of empirical knowledge to which the group has access. The knowledge may be erroneous in terms of modern science, but it makes sense in terms of the logical premises of the group. For example, the widespread belief that defines the experiencing of abnormal cold as the cause of respiratory illness is "rational." Closely related to extreme cold as a causative agent is aire or mal aire ("air," "bad air"), when this is explained as an actual current of air, a draft, which cools the body, producing various types of illness. Contracting aire is almost inevitable if one emerges from a house when warm, or if one breathes air much colder than what one has just been breathing. This in large part explains the Latin American belief that central heating is unhygienic if not downright dangerous. The violations of "hot" and "cold" food prohibitions, when such violations lead to illness, may also be classified among the "rational" causes. The role attributed to "microbes," however poorly the term is understood, is another evidence of a rational pattern. For example, the recognizably contagious qualities of such diseases as measles and smallpox make them fall in this category--as does the belief that gonorrhea comes from intercourse with a menstruating woman, or from sitting on a hot rock, that malaria comes from eating certain fruits, or not sleeping enough at night. The Colombian belief that "bad odors" cause illness likewise falls in this category, as does the Chilean concept of empacho. The latter is one of the most common folk ailments afflicting children and is believed caused by an object such as green fruit, soft bread, or half cooked food becoming stuck in the stomach or intestines.

"Natural" Causes.--In general, illness and injury which are explained as due to such "rational" or empirically determined causes are considered by the folk to be "natural." The most common "natural" diseases have names which correspond to those of modern medicine, and in terms of popular syndromes, sometimes etiologies, but rarely cures, they are essentially the same; whooping cough, colds, grippe, appendicitis, diphtheria, measles, chicken pox, smallpox, intestinal worms, diarrhea, venereal disease, typhoid fever, pneumonia, tuberculosis, and the like.

"Magical" Causes.--Other causes may be said to be magical or supernatural in form, in that they lie outside the body of empirical knowledge of the group, and are not verifiable or understandable in terms of that knowledge. Mal de ojo, or el ojo ("evil eye") is the most widespread "illness" in Latin America which is explained in magical terms. Certain individuals are

believed to have the power, often unintentional and sometimes unknown to themselves, of causing illness in small children by looking at, touching, or admiring them. Such a person frequently touches the child at the time of looking, thus preventing the ojo from taking effect, or if this is not done recourse may be had to home cures or a curandero.

Sometimes susto ("fright") is magical in origin in that a malignant spirit or ghost may take possession of an individual, or be the cause of the fright. Bewitchment, making use of rag dolls or images representing the victim, into which pins are stuck or which are otherwise injured, is not uncommon. The belief that a corpse emanates a cold essence which can cause bystanders to fall ill, unless ceremonial bathing or cleansing follow, is another example of a supernaturally-produced condition. In Salvador this emanation is hijillo, and in Colombia hielo de muerto. Mal aire, when the malevolent air is due to evil spirits, is a supernatural happening, as are entuertos (post-partum pains caused by contraction of the uterus), widely believed to result when the placenta is not disposed of in ritual fashion.

Recognition of Psychological Causes.--Folk recognition that strong emotional experiences can cause an individual to fall ill is evidenced by the wide variety of names for sicknesses that are essentially psychosomatic. Those emotional experiences which most often produce physiological results include fright, anger, desire, imagined rejection, embarrassment or shame, disillusion, and sadness. Susto or espanto results from fright, and frequently it is explained as a shock which separates the spirit from the body. The cure depends on inducing the spirit to return to its temporal home. Colerina is the term often used for disturbances produced by great anger or rage; in Mexico epilepsy is thought to be due to this experience. Desires are called antojos; unfulfilled food desires of pregnant women may result in birthmarks, whereas those of small children will cause the child to suffer gastric upsets. (In Chile, consequently, the wise parent never denies a child any food, drink, or sweet it wants, however inappropriate it may be.) In most countries sibling rivalry is recognized, often in a form in which a child shows unconscious resentment toward an unborn child of its mother. In Mexico this is known as sipe, in Salvador the child esta peche, in Ecuador pasion results, and often accompanies simultaneous weaning; in Peru the term is caisa, and in Chile this jealousy is a cause of pension (anxiety), in Peru embarrassment or shame produce chucaque, while in Salvador they cause a bothersome sty known as pispelo. The Peruvian tiricia is the result of a strong disillusion, and the Ecuadorian mal de corazon results from the loss of a loved one, loss of money or property, or some similar saddening experience.

Indigenous Curative Techniques

Folk cures make use of a variety of techniques. Most common are herb teas. Massage is often resorted to, and usually is explained as an action that removes the illness or poison from the body, in a mechanistic sense. The famous egg-rubbing of the body of a child believed to suffer from evil eye falls in this category. A warm, freshly-laid egg is passed over the body of the little patient, broken open and examined, and if a spot appears on the yolk it is assumed that el ojo has struck the child; this diagnostic practice also has therapeutic value and frequently is believed to cure the child. Poultices often are used, sometimes for mechanical effects, but more commonly for magical reasons: in Peru and Colombia a live pigeon is split open and applied to the body for certain illnesses. Diet, with special attention to the "hot-cold" qualities of the foods, is of importance in all places. Certain days often are used for curing (Tuesday and Friday, especially in Peru) and certain hours of the day. Religious orations and creeds frequently are recited.

Preventive measures, chiefly in the form of amulets, are common. These include packets of aromatic herbs around neck or wrists, rosaries, bits of red yarn, certain seeds (such as the Mexican ojo de venado, "deer's eye," believed to prevent the evil eye,) and the like. Also

preventive is the practice of periodic laxatives, and the custom of ironing dry any clothing inadvertently left out over night, where it might be struck by the moon's rays, or dampened by dew.

Medical Practitioners

Folk medical practitioners most commonly are called curanderos (feminine curandera) in Latin America, though other terms are encountered: in Salvador, parchero is also used, and in Chile, meico and meica (from medico, "doctor".) Midwives are called variously parteras, comadronas, or curiosas. Usually these men and women have come to occupy their positions after long periods of formal or informal training, not infrequently as apprentices or assistants to older practitioners. Only rarely do they have divine or supernatural powers to aid in their cures. Sometimes they may combine their work with black magic, but this also is relatively rare. In general they are honest, sincere practitioners, and respected members of the community. Beyond doubt they frequently cure sickness and alleviate suffering; their knowledge of herbs, as well as of psychology, must be very considerable. In most cases they cannot be looked upon as witch doctors, as frauds or shams.

A Prevalent Dichotomy

A more or less pronounced dichotomy exists in the minds of many Latin Americans between "folk" illnesses and those recognized by medical science. People know that certain types of disease can be cured or prevented by the doctor which do not respond to treatment by curanderos. At the same time they feel that there are other illnesses that are best treated by home remedies or curanderos, illnesses which are not understood by doctors, and the very presence of which is denied by doctors. These illnesses are generally those here referred to as "folk" diseases, particularly those described as having magical or psychological etiologies. If a child is diagnosed, for example, as having evil eye, obviously it is poor judgment to take the child for treatment to an individual who denies that there is such a thing. To illustrate, in Valparaiso a public health nurse visited a home and found a child suffering from bronchial pneumonia. She asked why the child had not been brought to the Health Center for treatment and was told, "The child is suffering from evil eye, and you know as well as I that the doctor does not know anything about the evil eye."

This dichotomy is not hard and fast; there is no sharp line in the minds of all persons between the two categories. Yet the common tendency on the part of doctors and nurses to ignore or ridicule folk concepts of illness undoubtedly at times reduces their effectiveness in that the attitude reinforces the dichotomy, as a result of which many genuinely sick persons do not receive proper medical treatment. There is a growing awareness of microbes in Latin America, but there is a marked tendency to understand by "microbes" those things that cause the illnesses that doctors can cure. Microbes have nothing to do with the evil eye, susto, and the like.

Several attempts were made to measure the extent of the practical effect of this dichotomy between "folk" and "doctor's" diseases. In Quito a list representing the most common complaints was given to 48 school children of both sexes, ages 11 and 12, and they were asked to indicate which illnesses they would take to a doctor, and which they would treat with home remedies or take to a curandero. It was assumed that opinion expressed would correspond closely with those which they had heard from parents and other adults. Results are shown in the tabulation on page 23.

In Chile a similar test was made, and similar results were found: the evil eye, "air," empacho, and pasmo (facial paralysis thought to result from exposure to air) were universally agreed upon as being unknown to doctors. Individuals diagnosed as suffering from these would therefore receive home treatment, often gravely prejudicing their chances of recovery, when the symptoms so interpreted actually are symptoms of serious illness. Conversely anemia, appendicitis, hernia, meningitis, pneumonia, smallpox, typhoid,

	Would consult a doctor	Would consult a curandero or treat with home remedies
*Fright	2%	98%
*Air	7%	93%
*Witchcraft	14%	86%
Colic	21%	79%
Evil eye	25%	75%
Stomatitis	28%	72%
*Pasmo	34%	66%
Open infections	34%	66%
Urinary complaints	36%	64%
Skin disorders	39%	61%
Diarrhea and vomiting	42%	58%
Emaciation	51%	49%
Smallpox	69%	31%
Dysentery with blood	75%	25%
Pneumonia	75%	25%
Whooping Cough	80%	20%
Liver complaints	84%	16%
Paralysis	91%	9%
Typhoid	93%	7%
Bronchitis	94%	6%
Malaria	95%	5%
Tuberculosis	96%	4%

* Diseases with magical or psychological etiologies.

and the like generally (but not invariably) were thought best treated by doctors. Results in Colombia also were similar. Illnesses with magical or psychological etiologies tended to receive home treatment or that of the curandero, while those due to "natural" causes were more likely to be taken to doctors.

It was apparent that there was a high degree of correspondence in all three countries between those illnesses, real or imagined, that would be taken to a doctor, and those that would be treated by other means. It was also apparent that those diseases with magical or psychological etiologies were those which, in general, constituted the greatest barrier to be overcome in educating people to make use of medical facilities.

The Doctor and the Curandero

The conflict between folk medicine and scientific medicine is summed up in the persons of the doctor and curandero. Each represents the highest achievement of his field. The attitudes on the part of the folk to each class, therefore, are pertinent to this study. Unfortunately, the doctor frequently comes off second best. This is in part due to the inherent nature of the situation, and in part to native suspicion of individuals in other social classes, particularly those above them. The curandero operates under conditions that are relatively more favorable than those of the doctor from the point of view of impressing the patient with concrete results and apparent success. He treats folk illness, the symptoms of which often are so ill-defined that he cannot help but succeed in alleviating them. If the vague physiological symptoms identified with the illness persist or reappear after the cure, the curandero can always say that the case has become complicated and requires another series of cures or a different cure, or that a new and different illness has attacked the patient. Also, most curanderos do not claim to cure all illnesses, and in many cases can recommend that a patient consult a doctor. This establishes them in the minds of the folk

as fair, open-minded individuals willing to admit their limitations. Finally, the curandero's diagnostic techniques do not require elaborate and exhaustive questioning of the patient as to symptoms, case history, and the like. He has certain magical or automatic devices which he applies to specific situations, and the answers follow almost like clockwork. Moreover, there are many cases reported by field observers in which a doctor failed to cure an individual and a curandero had apparent genuine success.

The Doctor's Handicaps.--The doctor enjoys few of these advantages. His diagnosis is seldom cut and dried, he cannot guarantee quick results, and he seldom enjoys the faith and confidence accorded the curandero, because he is from a social class instinctively distrusted by the majority of his patients. Moreover, the doctor seldom admits that a curandero can cure things which he is incapable of treating, and this is interpreted as meaning that he conceitedly and selfishly believes himself to be the sole repository of medical knowledge--a point of view which the village is loath to accept.

Criticisms of doctors and their professional methods are rife among their patients of the lower class, and in most cases such criticisms are based on a complete lack of comprehension of medicine, its methods, and its limitations. Several pointed out that doctors asked questions of patients about their symptoms, which showed that they were not as smart as they thought they were. A smart doctor should not have to ask questions. A good curandero doesn't have to ask questions, so why should a man who pretends to know a great deal more have to do so? Another patient scornfully pointed out that a president of Colombia died "even though he had 50 doctors at his bedside." The implication was that if 50 doctors could not keep a man from dying, a single doctor in a short interview was almost worse than worthless.

A final handicap of the doctor is that he is a victim of the general tendency to exhaust home remedies and the arts of the curandero before appealing to the doctor. He therefore gets many cases which are hopeless because of the time interval, or which are simply incurable. Hence, the failures of folk medicine as well as those of his own profession are heaped upon his shoulders.

The Utility of Cultural Knowledge

If patients could come to believe that doctors and nurses are familiar with their own ideas of health and sickness, approved of some of their treatment (e.g., isolation, bathing, specialized diet, herbal teas,) but feel that for many things they have even better methods, it is very likely that greater tolerance for modern medicine would be evinced. There must be great numbers of people who would like to follow a doctor's recommendations, but are fearful to do so because of the accumulated repressive weight of folk tradition, and the doubts which arise from feeling that the doctors do not know about some types of sickness.

The utility of knowledge of folk concepts of illness and treatment has been demonstrated. In Chile, as in the other countries, herbal teas form an important part of the curandero's pharmacopoeia, and popular confidence in them is great. For infant diarrhea some Servicio doctors prescribe, in addition to other remedies, the herbal teas which they know have the confidence of the people. Drinking quantities of liquid is part of the treatment for diarrhea; by the device of teas it is possible to ensure boiled, and therefore safe, water. Were the doctors to say "Give the child lots of boiled water," mothers would be much less likely to follow instructions; but by interpreting treatment in terms of local belief mothers are convinced the doctors know what they are talking about, and the child is well taken care of.

In Ecuador--and most of the rest of Latin America--it is believed that young children are "delicate," more susceptible to danger from witchcraft, microbes, and other disease-causing agents. A water supply system was installed by the Servicio in Tulcan. Adults showed little interest for themselves in a source of pure water;

they had been drinking contaminated water all their lives, with no apparent ill effects. But they recognized that their children were more vulnerable than they. By placing the emphasis for the need for pure water upon the health of the children, rather than on health in the abstract, greater interest was aroused among the citizens.

In Colombia, mal olores, bad odors, are popularly believed to cause disease. Typhoid fever particularly is described as a disease associated with bad smells. For this reason, considerable opposition to pit privies exists in some places. Greater attention to means of deodorizing pit privies might very well result in their greater acceptance. Conversely, knowledge of this belief ought to provide a strong focal point to gain support for sanitation campaigns, particularly modern sewage and garbage disposal plans.

In Mexico isolation of patients is a part of the treatment of some illnesses. In most cases isolation stems from the belief that the patient is in a weakened condition and that visitors knowingly or unknowingly might further injure him, particularly through the evil effects of aire, of strong body "humors," or of "strong" blood. There is little thought that a patient is coughing out germs which may infect others in the family. Whatever the folk reasoning, an essentially hygienic practice is followed, one that can be successfully utilized by doctors and nurses in the treatment of communicable diseases. The nurse need not remark on the potential danger of aire, but if she simply says that visitors are undesirable the chances are that the family will respect her recommendation, even though she is thinking in terms of contagion and they in terms of magic.

GENERAL CULTURAL FACTORS

More general aspects of Latin American culture patterns bearing upon the Institute's public health programs were covered in the evaluation. Mexico furnished a striking example. A survey had shown that in a large urban health center 43 percent of registered women deserted prenatal treatment before delivery, the majority dropping out following the first gynecological examination. In a nearby semi-rural health center the loss was only 21 percent. Allowing for some variation because an urban population is more mobile and less stable than a rural one, there was nevertheless a significant difference between the two centers.

The explanation seemed based on Mexican (and Latin American) ideas of decorum and modesty. The first prenatal examination comes as a great shock to most women. The intimate examination itself is embarrassing, and doubly so the fact that it is made by a man. In the small center the woman was carefully prepared for the experience. The nurse explained just what would be done, why it must be done, that it probably would be done only once during the course of treatment, and that she (the nurse) would be present all the time. In the large center the patients had little idea of what was coming.

In a Colombian center there was practically no gynecological examination. The women refused to submit to it, partially because of their own feelings, and partially because their husbands were outraged at the idea of any other man having such intimate contact with their wives.

Even in Chile, where health services generally were well advanced, it was noted in a large center that the gynecological examination, such as it was, was done by a midwife, the doctor hardly looking at the patient beyond taking her pulse and listening to her chest. On the other hand, in a small center in Salvador where women were well prepared by the nurse, as in the case of the small Mexican center, there was little embarrassment shown during examinations, and relatively few losses.

The impersonality of modern medicine here runs into a cultural barrier of considerable importance: prevailing concepts of modesty are incompatible with the requirements of medical treatment. At the very least, in all prenatal cases a thorough and sympathetic explanation should make gynecological examinations generally acceptable.

Doctor-Patient Communication Problems

Cultural factors pose serious barriers to full development of public health programs in other ways. In all countries studied a problem of greater or lesser magnitude was that of communication between doctors and patients. A significant number of patients, after seeing the doctor, did not know what they had been told to do.

In the Cerro Baron Center in Valparaiso, one of the finest in Latin America, 13 women were asked consecutively, as they emerged from the doctor's room, to repeat his instructions. Ten were unable to say well enough to profit from the visit. Similar results were found in the other countries. In Cerro Baron, and some other centers, this problem was seen to have been partially remedied by having the doctor write the instructions on the patient's record card. Before leaving the center the patient would visit the nurse, who would repeat from the card the instructions, explaining in greater detail what the patient was supposed to do.

Failure to comprehend the doctor was due to a variety of reasons. In many cases the patient was nervous and uneasy in the presence of a man, particularly since she usually was of humble origin, and he of a much higher social status; she unable to concentrate, and unable to grasp what was being said.

Development of greater rapport between doctors and patients will partially solve this problem. But it must be realized that the manner in which instructions are phrased is highly important. What appears simple and logical to an educated person may not be at all simple to a less well educated, often illiterate, individual. In the United States it is taken for granted that patients will understand what is meant by doing something "every three hours." Yet in much of Latin America such instructions are meaningless.

In a Mexican center the doctor told a mother with an infant to nurse it "every three hours." The anthropologist asked the mother at what hours she would feed the child. "At six, seven, eight, and so on," replied the mother. The startled doctor again repeated his instructions, in the same way. The anthropologist again asked the mother, and again was told "At six, seven, eight, and so on." Instructions in terms of time as defined by hours simply were meaningless to this woman. She had no clock, she was unable to tell time, and in her life experience it had never been necessary to grasp the import of time as understood in hours. Time was found to be meaningless, as far as instructions were concerned, in many other cases.

When significant numbers of a center's patients come from illiterate and low income groups, groups which are not used to clocks, it would seem wise to work out local adaptations of the time concept in terms of phenomena which would have meaning to the people. In most cities there are factory whistles, municipal sirens, church bells, and the like which sound at regular hours. Time points with meaning for each area could be established, and instructions might be phrased in such terms.

A similar case was noted in Temuco, Chile, where pregnant women are told by the doctor to walk three kilometers a day if they feel well. At a meeting at which volunteer nurse's aides were being trained, the nurse asked, "How much exercise should a pregnant woman take every day?" All trainees promptly replied, "Walk three kilometers daily if you feel well." The anthropologist asked, "How far is three kilometers?" This precipitated a lively discussion. Some women thought that the cipher "9" was a part of the formula, and others thought that 27 blocks was a part of the formula. The question was, should a pregnant woman walk 9, 27, or 81 blocks. The women were unable to agree. As in the case of time instructions, what appeared to the doctor and nurse to be simple, clear, meaningful expressions were of no use whatsoever to the audience toward which they were directed, because the people were not trained to think in the same terms as the doctors.

Hours of Work Barriers

Bureaucratic hours and practices were found to constitute a considerable cultural

barrier to full acceptance of some Servicio projects. In much of Latin America, government hours are from 8 a.m. to 2 p.m., or a similar time period. Allowing for "opening" shop, as well as closing, the effective hours are considerably reduced. Moreover, since full time doctors are the exception rather than the rule, many doctors put in only an hour or two a day at health centers, with considerable latitude with respect to arrival time. To be reasonably sure of attention, a patient must come early and patiently await her turn. For a busy housewife with many small children to get off to school, with morning marketing chores, and a hungry husband coming home at noon to eat, the loss of up to half a day was found to be a well nigh insurmountable difficulty. Loss of time was the single most frequent complaint from patients of health center services. If some services could be rescheduled for the afternoon (as is actually done in a few centers), at which time mothers are less occupied, it is very likely that more patients would be attracted, and greater good will among them would result. In Salvador the semi-private Boston Azul, which offers prenatal service from seven to nine in the evening, was an obvious success, as its crowded waiting room attested.

The Privy Problem

The humble pit privy may also be used to illustrate the importance of an understanding of the general cultural configurations of a country. Privy campaigns of one sort or another probably have been carried out in all Latin American countries. Public acceptance in some cases has been good, but all too often they have ended up as chicken coops or as grain silos. Customary posture in defecating is perhaps the single most important fact which bears on the acceptance or rejection of privies. A coffee planter in Salvador, in the interests of his employees, built a series of privies, one for each house, according to the standard American "riser" model. He was upset when his employees refused to use them. Finally an old man offered the suggestion, "Patron, don't you realize that here we are squatters?" The planter ripped out the seats, replaced them with a perforated slab floor, and was gratified to find that public acceptance was general.

After an earthquake in Salvador in 1950, temporary camps were built for the homeless, including modern sanitary privies. Their acceptance was limited. Finally it was realized that the people were used to satisfying their bodily needs in the bushes, under the shade of trees. They liked the outdoor atmosphere. When the privies were moved from open fields and placed under trees, with roofs, left off, the psychological requirements were met and everybody was happy. Twenty years earlier Rockefeller Foundation doctors in Java had discovered precisely the same thing!

In La Dorado, Colombia, Servicio-built privies appeared to meet all cultural specifications, but were not well accepted. The anthropologist found an important factor was the belief that bad odors in themselves are carriers of infection and causes of illness. Many people felt they were observing good hygiene in not using privies.

CONCLUSIONS

Since greatly increased attention is being given to cultural factors in the planning and operation of public health programs, some of the general theoretical implications of the work done by the anthropologists who participated in the survey may be mentioned. Foremost among these is the question as to how much an administrator must know about a given culture in order to carry out a specific project. Ideally, the more he knows about the cultural milieu in which he operates or proposes to operate, the more successful he will be.

It is axiomatic with anthropologists that culture is an integrated, functional whole, in which the separate parts continually impinge upon each other, conditioning and governing, and in turn being conditioned and governed. A change in one part of a culture will produce secondary and tertiary disturbances in other parts. Or the primary change may be difficult to

induce because of limiting circumstances surrounding adjacent areas of culture.

In Latin America, the success of public health programs is to a very considerable extent dependent upon corresponding advances and modifications in a number of other aspects of the cultures in question. These embrace technological devices, systems of social and political organization, the attitudes and values. Bodily hygiene, for example, is more than a question of education and persuasion. It implies the presence of pure water in reasonable quantities--a system of piped water in most instances. But a modern water distribution system requires a maintenance organization, the presence of tools and replacement parts, power for pumps, and a socio-political structure to administer the system, collect bills, and provide personnel. Improved bodily hygiene, therefore, requires new mechanized devices, new technical knowledge, new attitudes, and new systems of cooperation. The individual who operates on the assumption that a superior idea or technique alone will attract customers, regardless of the cultural context into which it is introduced, will encounter many frustrating experiences.

Although it is desirable to know as much about an entire culture as possible, there are obviously strict limitations as to what can be known. Social scientists have barely made a beginning in the formidable task of describing the elements of the cultures of the world, and interpreting their significance. It must be assumed that for any given program there are certain categories of information about the culture in which the work is to be carried out which are of primary importance, and others that are of lesser importance. A "trial run" in compiling a list of primary classes of data for public health programs gives the following picture. The points mentioned are suggestive and illustrative, and do not pretend to be a definitive catalogue.

1. Folk medicine and native curing practices. The significance of these data has been discussed.

2. Economics, particularly incomes and costs of living. The cited case of failure to build privies because of their relatively high cost is in point. Inability to buy medicine is one reason why many persons fail to avail themselves of center treatment. The possibility of achieving a balanced diet likewise is restricted by inability to pay. Inadequate housing similarly is a great problem. Since in the final analysis the success of public health programs rests upon major changes in the habits of people with respect to diet, housing, clothing, agriculture, and the like, knowledge of the economic potential of an area is paramount.

3. Social organization of families. In Xochimilco, Mexico, for example, a bride often lives in her husband's home, and is under the domination of the mother-in-law. A number of cases were noted in which pregnant women failed or had difficulty in following center recommendations because these conflicted with what the mother-in-law thought was best.

In many cases, men and women who live together are not legally married. A man is less likely to recognize obligations to his companion and their children under such circumstances, and is persuaded with greater difficulty to come in for venereal or other treatment. Recognition of these, and similar problems, makes more intelligible the responses of patients.

4. Education and literacy. Ability to comprehend the real nature of health and disease, to profit by health education, and to understand and follow the doctor's instructions depend on rising education and literacy.

5. Political organization. On the administrative level this means the local conditions under which doctors and other staff members will be appointed, bureaucratic rules which govern operations, and the like. In one country a new, large health center, not yet placed in operation, was seriously threatened by the conflicting interests of the state governor, the local nurse's union, and other bureaucratic factors.

6. Religion. A basic analysis of religious tenets is not essential, but some parts of the religious philosophy of the people should be known. Are there any beliefs which hinder or directly conflict with proposed programs? Is death, for example, at any age considered a welcome relief from a world of suffering? Are there food taboos based on religious sanction which should be taken into consideration in planning diets?

7. Basic value system. What are the goals, aspirations, fundamental values, and major cultural premises consciously and unconsciously accepted which give validity to the lives of the people in question? What is the practical significance, for example, of a fatalistic approach to life and death? What part does prestige play in determining customary behavior patterns of the people? Is male vanity and ego a factor to consider? What are the ideas of bodily modesty? What are the types of stimuli and appeal to which people respond most readily?

Other types of data which planners and administrators for public health programs should have at hand include information on credit facilities and money usages, labor division within the family, time utilization, working and eating schedules, cooking and dietary practices, and the importance of alcoholism.

Categories of culture in which precise knowledge would appear to be of lesser importance include agriculture, fishing, and other primary productive occupations, industrial techniques (except as working conditions may affect health), trade and commerce, religious fiestas and church observances, wedding ceremonies, burial customs, music and folk tales.

Specific health programs should be projected against basic data, and decisions made as to what specialized additional information is needed, and plans made to gather such information.

For some parts of the world considerable quantities of these basic or "core" data are available in greater or lesser amounts. Latin America is one such area. Too much emphasis cannot be laid on the importance of the fact that the anthropologists who did this analysis were working in a field in which a great deal of preliminary, pertinent work had been done. Anthropologists, and to a lesser extent sociologists, have for more than 20 years been quietly gathering, analyzing, and publishing data on Latin American cultures. Much of this work was done with no thought of immediate practical application. Nevertheless, it represents a large stock of accumulated scientific "capital," much of the value of which lies in the fact that it is generalized, and not specialized, and therefore affords a workable background or jumping off point for the institution of a wide variety of programs.

The discovery, classification, and interpretation of new facts merely points the way to continuing research. Simultaneously, however, this process makes possible the solution of technical problems of steadily increasing complexity and variety, and consequently of expanding utility in the practical or applied context.

Therefore, one of the best uses of the social sciences in the Institute's bilateral health programs is the direct assignment to field parties of individuals well versed in the most recent developments in their fields, both to do generalized cultural research and simultaneously to gather specialized information to facilitate specific projects. Such a plan would make it possible for administrators and program planners to have a continually growing body of precise factual information which, judiciously utilized, would eliminate much of the guess work which otherwise could not be avoided.

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GENERAL ADMINISTRATION

The resolution by which the foreign ministers of all of the twenty-one American republics recognized the importance of international cooperation for the advancement of public health in the hemisphere was the thirteenth of forty-one resolutions adopted in their historic meeting in Rio de Janeiro in January 1942. It recommended to the governments represented that individually or through bilateral or multilateral agreements the necessary means be taken to solve the environmental sanitation and health problems of the Americas and that to this end, according to capacity, each country contribute raw materials, services and funds.

The broad objectives of the cooperative health and sanitation program were thus stated and, leaving aside the question of political considerations, the next problem was to determine the best basic approach for reaching them. Considering the great potentials in Latin America in both human and material resources, assistance in developing them seemed the practical answer.

It was hardly to be expected that any one nation, regardless of how favorable its economic position, could bring about any appreciable change in the health conditions of the other nations by the provision of money alone. Nor could the desired objectives be reached by any attempt by one nation single handedly to take over and run the health services of another. It became apparent, therefore, that assistance in helping to solve the health and sanitation problems of the Latin American countries must be based first of all upon cooperative effort directed toward the strengthening of the existing health services of each country. This would involve expansion of services and, in some cases, their creation or complete rebuilding. All efforts of the cooperative program must be directed toward developing in each country a health program best fitted to the needs of the particular country, staffed with well trained nationals, and for which that country could eventually assume complete economic and technical responsibility.

THE FIRST BILATERAL AGREEMENTS

The initial bilateral agreement was between the United States and Ecuador. On February 24, 1942, the Honorable Sumner Welles, Acting Secretary of State, in an exchange of notes with the Honorable Senor Dr. Eduardo Salazar, Minister Counselor of the Ecuadoran Embassy, wrote the following:

> My dear Dr. Salazar:
>
> I refer to Point 4 of the memorandum of January 29, 1942 which was delivered to the Government of Ecuador by the Government of the United States at Rio de Janeiro, committing my Government to assist the Government of Ecuador in an amount not to exceed $2,000,000 to be expended in ways which will contribute to the attainment of the objectives of that Government in matters of health and sanitation.
>
> In fulfillment of this commitment and in accordance with Resolution XXX of the Third Meeting of the Ministers of Foreign Affairs of the American Republics at Rio de Janeiro, the Government of the United States, acting through the agency of the Coordinator of Inter-American Affairs, is sending, upon your request, a small group of experts to Ecuador in the immediate future in order to develop a specific program in agreement with the Government of Ecuador, acting through the agency of the Municipality of Quito and the Junta de Beneficencia of Guayaquil. This group will be under the immediate direction of the Chief Medical Officer of the Office

of the Coordinator of Inter-American Affairs and will work in the closest cooperation with the appropriate Ecuadoran officials. Approval for the actual execution of the specific projects agreed upon will be made by the respective Governments or their duly appointed agents upon recommendation of the Chief Medical Officer, acting in cooperation with the appropriate officials (of the Municipality of Quito or the Junta de Beneficencia of Guayaquil), or with appropriate officials designated by the Ecuadoran Government for such projects as might be undertaken outside of the municipal areas of Quito and Guayaquil. Expenditures for such projects shall be made upon certification of the Chief Medical Officer and the appropriate Ecuadoran official designated for the areas where projects will be executed.

The specific projects of interest to the Ecuadoran Government include:

1. For Quito:

    1. Improvement of the sewage system.
    2. Improvement of the waste disposal system for garbage and rubbish.
    3. Expansion of a malaria control system near Quito.
    4. Improvement of disease control by means of hospitals, clinics and educational measures.
    5. General cooperation with the Ecuadoran Health Department.

2. For Guayaquil:

    1. Improvement of the sewage system.
    2. Improvement of the waste disposal system for garbage and rubbish.
    3. Expansion of the malaria control system, including such extension of the Malecon river wall as may contribute to that objective.
    4. Extension of the plague control system by means of rodent control along the Guayaquil and Quito Railroad.
    5. Improvement of disease control by means of hospitals, clinics and educational measures.

3. In addition, in cooperation with the appropriate officials of the Ecuadoran Government, recommendations will be made by the Chief Medical Officer for such health and sanitation programs as might be executed outside the municipal areas of Quito and Guayaquil.

These projects upon completion will of course become the sole property of the Ecuadoran Government. The United States Government will be prepared to facilitate such training of Ecuadoran personnel as the two Governments may deem advisable.

The Ecuadoran Government will, it is understood, be willing to provide, in accordance with its ability, such raw materials, services and funds as may be deemed necessary for the proper carrying out of the program.

The Honorable
Senor Dr. Eduardo Salazar,
Minister Counselor of the Ecuadoran Embassy

Especially noteworthy in this exchange was the provision that the small group of U. S. technicians were to "... work in the closest cooperation with the appropriate Ecuadoran officials." The program was initiated on this basis.

Shortly thereafter on March 14, 1942, diplomatic notes were exchanged by the Governments of Brazil and the United States providing for a similar technical mission to Brazil. The text of Mr. Welles' note of March 14, contained among other provisions the following:

> The group of United States medical and sanitation specialists which the Brazilian Government indicates should be sent by the Office of the Coordinator of Inter-American Affairs shall be under the direction of the Chief Medical Officer of that Office who in turn will be under the supervision of the appropriate officials of the Brazilian Government.
>
> Detailed arrangements for the execution of each project shall be discussed and agreed to between the Chief Medical Officer and the officer of the Brazilian Government in the area of the proposed project. The technical advice and expert assistance of United States medical and sanitation specialists will be made available to the appropriate Brazilian authorities at any time that the need for consultation arises.

This was followed on April 17, 1942, by a decree by President Getulio Vargas authorizing the Minister of Education and Health to enter into an understanding with the Institute of Inter-American Affairs for the purpose of developing a "service of cooperation on Public Health." On the basis of this decree, an agreement was drawn up and signed on July 17, 1942, by U. S. Ambassador, Jefferson Caffery; Institute of Inter-American Affairs representative, Dr. George M. Saunders; Brazilian Minister of Foreign Affairs, Oswaldo Aranha; and Brazilian Minister of Education and Health, Gustano Capanema.

"EMERGENCE" OF A PATTERN

Out of the initial agreements and their activation there evolved a pattern which came to be generally used as a guide in the inauguration of bilateral health programs in other Latin American countries and in the development of these programs individually. Common to all of them were what came to be known as (1) the "Basic Agreement," (2) the "Project Agreement" and (3) the "Completion Agreement". Following is a summary of the evaluators' study of the chief features of this pattern, of their observation as to its effectiveness as reflected in experience in Servicio operation, and of certain conclusions reached and recommendations formulated in the course of their survey.

THE BASIC AGREEMENT

The cooperative programs are initiated and extended by an exchange of notes between the United States Ambassador and the foreign minister of the country involved which indicate the willingness of the respective governments to participate in a cooperative health and sanitation program. The notes authorize the Minister of Health and the representative of the Institute to draw up and sign an agreement stipulating the basic financial contributions and technical assistance to be contributed by each government and the general conditions under which the program will be carried out. This agreement is known as the "Basic Agreement" and is the contract between the two countries for the conduct of the cooperative program.

Originally these agreements took two general forms: (1) An exchange of letters between an official of the Institute and the Minister of Health of the Latin American country, in which these two officials signified their agreement upon certain criteria as a basis for operating the cooperative program, or (2) a formal document drawn up and signed by the Minister of Health or his representative and a representative of the Institute. This latter technique was, within a few years, in general usage.

The provisions of these basic agreements have varied from country to country, especially during the early stages of the program, but have followed the same general pattern. The major provisions common to most agreements are as follows:

1. Provides for the establishment of a special unit of government in the host country to carry out the cooperative program. In Spanish-speaking countries this

unit is usually designated as "Servicio Cooperativo Interamericano de Salud Publica", or "SCISP". In nations where French or Portugese is spoken, the designation is in the language of the country. The word "Servicio", however, has become largely universal in usage. The Servicio is established as a unit of the ministry having responsibility for the health functions of the government. In some cases it has been made directly subordinate to the minister and in others to the Director General of Health (corresponding to a bureau head). In a few countries, at first, the Servicios operated in cooperation with the Ministries of Health but with no defined administrative subordination to the Minister of Health or other national official. Most present agreements provide that the Servicio be immediately subordinate to the Minister of Health.

2. Provides for sending to the host country a small group of United States technicians, called a "field party", under the direction of a "chief of party." Most of the early agreements provided that the chief of party should be a doctor of medicine, but that provision has generally been eliminated.

3. Provides that the chief of party will be the director of the Servicio.

4. Specifies the amount of money to be contributed to the cooperative program by each government, and the period of time covered by the agreement.

5. Defines in some detail the area in which the program is to function. Specifies that the program is to be carried out on the basis of specific projects agreed upon in writing by the director of the Servicio and the Minister of Health or his representative.

6. Provides that the salaries and travelling expenses of the members of the field party will be paid directly by the Institute.

7. Provides for special exemption from local taxation for the members of the field party and granting importing privileges to them for personal effects and to the Servicio for supplies used in its program.

8. Defines the administrative authority of the Director of the Servicio with regard to the employment of personnel, the expenditure of funds and the accounting and reporting processes.

Thus from the very beginning of the program in each country there has been a defined base of operation agreed to in writing, in both languages, by both parties. This has undoubtedly prevented many operational problems from arising and contributed immeasurably to the stability of the various programs.

The original agreements were for the most part brief and some provisions phrased in very general terms. As experience dictated, these agreements have become more specific and conform to a more uniform pattern. In the beginning the agreements usually covered a period of two or three years but following the war, because of the uncertainties of continuing United States participation, they were extended on a year to year basis. This made program planning and administration very difficult, particularly since most Latin American countries operate on a calendar year fiscal year and the United States appropriations would come through long after the July 1st beginning of its fiscal year.

In 1949, Congress extended the life of the Institute to 1955, and it was possible to extend the basic agreements for a five year period. The extensions covered all basic provisions except the amount of money to be contributed by the respective governments. Since this amount depends upon the appropriating bodies of the respective governments it is necessary to amend the agreements yearly to indicate the respective contributions.

The model proposed by the Washington office to be used as a basis for negotiating the five year extentions contained a significant statement of objectives.

The objectives of this cooperative health and sanitation are:

A. To promote and strengthen friendship and understanding between the peoples of the Republic of_____and the United States of America and to further their general welfare;

B. To facilitate public health and sanitation activities in_____through cooperative action on the part of the parties to this agreement; and

C. To stimulate and increase the interchange between the two countries of knowledge, skills and techniques in the field of public health and sanitation.

THE PROJECT AGREEMENTS

The programs of the various Servicios are carried out, for the most part, in the form of detailed projects which are based on written agreements signed by the minister and the chief of party. Clause V, of the model agreement provides in part:

> A. The cooperative health and sanitation program shall continue to consist of individual projects. Each project shall be embodied in a written agreement which shall be agreed upon and signed by the minister and the chief of field party, shall define the work to be done, shall make the allocation of funds therefor and may contain such other matters as the parties shall desire to include. Upon substantial completion of each project, a Completion Agreement shall be drawn up and signed by the Minister and the Chief of Field Party which shall provide a record of the work done, the objectives sought to be achieved, the financial contributions made, the problems encountered and solved and related basic data.

From the inception of the cooperative program it has operated on the principle of coordinate approval for the expenditure of all Servicio funds. When a particular activity is agreed upon, such as the construction of a water supply system for a village or the initiation of a malaria control program for the entire country, a written plan of objectives is signed by the minister or his representative and the chief of party. Included in this project agreement is an allocation of funds estimated to be sufficient for the work to be undertaken under the agreement. If because of unanticipated factors or errors of judgment the cost of the project exceeds the original estimate, additional funds may be allocated in the same manner. In most cases the director of the Servicio has the authority to make the actual disbursement of funds within the provisions of the project agreements.

THE ADMINISTRATIVE PROJECT

The first project to be agreed upon and signed by the respective officials in each country is known as the "Administrative Project". This provides the funds for the establishment of the Servicio as a unit of government. Because of their nature, the various Administrative Projects are periodically amended to provide administrative funds for continued operation and are usually terminated only when the cooperative program is terminated.

Typical of the content of these administrative projects is the Ecuador agreement. It provides funds for the employment of administrative personnel (exclusive of the U. S. field party), their salaries, travelling expenses and subsistence needed in their work; office supplies, stationery and binding; communications (telephone, telegraph, etc.); purchase and repair of office furniture and equipment; rental space for offices and storerooms; and other items of a general administrative nature.

Administrative Shortcomings.--It is, of course, not possible to itemize in these agreements all expenses incurred by the Servicios which should legitimately be charged against the general administration of the program. However, there seems to have been a pronounced tendency to charge many activities against "administration" which more legitimately should have been a separate project or charged to some other existing project. For example, in one country the engineering section of the Servicio was requested to design and prepare plans for the construction of a hospital to be built and operated by another agency. Instead of setting up a separate project to

cover the expenses involved in this operation, the total cost was charged against the Administrative Project. It may be impractical in many cases to try to determine the amount of time spent by top administrative officials of the Servicio in the supervision of a particular project in order to charge that project with its proportionate part of their salary or expenses. There have been, however, many clear-cut cases similar to that cited above, where it appears enough consideration has not been given to this problem. One result is that it is virtually impossible to make any adequate appraisal of the cost of administration as compared to the total program funds expended.

There is also a general lack of uniformity in determination of project content and the division of the Servicio's program into the various projects. In some instances a single project may cover activity involving the construction of a hospital, purchasing its equipment, training its personnel, and its actual operation for a period of time. In another instance an almost identical situation would be handled by the formulation of four or more separate projects, each covering one aspect of the total operation. In one country a single project may be written to cover a health development plan for a particular area and contain provisions for the establishment of a health center, a malaria control program for that area, perhaps a water supply and sewage disposal system for a city in the area and many related activities. In another country where equal total planning may exist, a project agreement is signed for each of the aforementioned activities.

The result is that comparative analysis of Servicios' activities among the several countries is most difficult and in some respects totally impossible.

It seems an abvious conclusion that the various practices of the Servicios in the area of the Administrative Projects should be thoroughly analyzed and definitive guides established in order that more uniformity shall exist in determination of project scope and content.

THE COMPLETION AGREEMENTS

The use of "Completion Agreements" was initiated several years after the beginning of the program. As the various Servicios developed specific health facilities and programs to the point where it was logical to turn them over to the normal governmental agency for continued operation, it seemed desirable to formalize the process.

The purposes and values of Completion Agreements are several. In the first place, as the name implies, the agreement is a document signed by the minister and the chief of party in which both parties agree that the work outlined by a project agreement has been completed to a point of logical transfer. It has become clear, however, that in many of the operations which involve the training of personnel and perhaps the operation of certain facilities for a period of time, it is impossible to draw a hard and fast line to indicate that at that point the project is finished.

The Completion Agreements are also designed to provide a complete record of program accomplishment. While the project agreement indicates the goals and plans for an undertaking, the completion agreement indicates exactly what was accomplished. These agreements, if properly maintained, provide a record of problems encountered in the course of the project operation, the techniques used to meet these problems and the degree of success attained. The Completion Agreements become in a sense a history of the project and are of great value to the Servicio personnel in evaluating their own performance and in planning future undertakings. Likewise they are of considerable value to the agency taking over the responsibility for the future operation of the project. There should be recorded in these agreements descriptions of methods tried and which failed as well as those which succeeded in order to assist in future operations.

The completion agreements provide a record of the actual expenditures made under the project agreements and any

possible amendments. In addition they record any contributions over and above the amounts contained in the project agreements which may have been contributed by "third parties" such as municipalities, states, private individuals or agencies. Such contributions may be made in the form of cash or kind, such as land, buildings or personal services. The agreements further provide for the disposition of all property, equipment or materials involved in the development of the completed project.

In actual practice, however, the use of Completion Agreements leaves much to be desired. In many cases projects are completed for many months before Completion Agreements are prepared. In such cases it is not unusual that the technicians most closely associated with the project operation are not available for the preparation of the Completion Agreement. In general, Completion Agreements seem to be looked upon by the field staff as an extra requirement of Washington and they are carefully filed away as soon as prepared.

The agreements themselves generally lack the completeness desirable to make them an effective tool of self-evaluation and program planning.

SPECIAL PROJECTS

One important part of the cooperative program is carried on directly by the Washington office outside the framework of the Servicio. This activity consists of a variety of "special projects" financed completely from Institute funds and administered by the Washington office. The variety of these special projects is considerable. One of the major functions is the provision of scholarship and travel grants to Latin Americans for travel and study in the United States.

In 1943, the Institute made a grant of $45,000.00 to the Pan American Sanitary Bureau for defraying the expenses of a conference of the Inter-American Hospital Association which was then a part of the Pan American Sanitary Bureau. Since the Association has become independent subsequent grants have been made for meetings in Lima and Rio de Janeiro.

There have been special projects for the translation of technical articles and books into Spanish and for furnishing books to medical schools in Latin America. An American Medical Association magazine was translated into Spanish and Portuguese.

Other special projects have included the purchase of blood plasma and its shipment to Guatemala for treatment of casualties in a revolution; the sending of sulfadiazine to Chile during an epidemic of menengitis; the furnishing of advisory service to the Colombian government in reorganization of the Ministry of Health; and the publication of a monograph on the identification of the Anopheline, by Dr. O. R. Causey.

Apparently special projects have been utilized in instances where a worthy undertaking did not lend itself to bilateral action. There seems to be little doubt this technique has served a very useful purpose.

FINANCIAL CONTRIBUTION RATIOS

The percentage of contribution to cooperative health programs varies in the different countries and reflects to some extent a relationship to the economy of the host country. For example, in Venezuela the 1951 basic agreement called for a contribution of $25,000 by the Institute and a contribution of $502,500 by the Venezuelan Government to the basic program funds of the Servicio. However, the Servicio had a working arrangement with the Ministry whereby 75% of the cost of constructing water supply systems would be paid by the government of the Venezuelan State in which the particular project was located. The Servicio contributed the other 25 per cent plus the technical supervision of the project. On this basis, the comparative cash contributions of the two countries were roughly Venezuela 98 per cent and the United States 2 per cent. The cost of the technical assistance supplied by the United States, however, approximated $115,000, which raised the relative contribution of the United States to approximately 8 per cent as against 92 per cent for Venezuela.

In countries enjoying a less favorable economic position, the United States ratio of contribution is much greater. For example, in Haiti the United States contribution in money in 1951 was $85,000 and the basic Haitian contribution $255,000 or a ratio of 25 per cent United States to 75 per cent Haitian. However, the cost to the United States of the technical staff was $87,000 so that about 41 per cent of the total cost of the Servicio's operations came from the United States.

Ratios and Per Capita Income

The determinations of the amounts to be contributed by the United States and the host governments have been subject to local negotiation and have not, therefore, always conformed to the principal of higher United States ratio of contribution in the countries of lower economic level.

Chile is one of the more progressive countries in Latin America. It has an estimated annual (1949) per capita income of $188 which was surpassed only by Uruguay and Venezuela in the list of countries in which there have been cooperative health programs. * However, the ratio of 1951 basic contributions in the Chilean programs was 25 per cent United States to 75 per cent Chilean--exactly the same as in Ecuador and Haiti, each of which had an estimated annual per capita income of only $40. Brazil, with an estimated per capita income of $112, contributed over 95 per cent of the basic program funds of the Servicio compared to Chile's 75 per cent. If the difference between the official rate of exchange and the free market rate in Chile is taken into consideration, the host government's basic contribution shrinks to less than 66 2/3 per cent.

TECHNICAL CONTRIBUTIONS

During the first years of the program the United States also contributed a very high percentage of the technical and administrative knowledge and skill, as well as of funds, that went into the Servicio operations. In most countries the technical contribution was never made by a very large group, usually less than ten people at any one time. However, in Brazil, in 1943, there were 80 United States technicians assigned to the field party. From the very beginning of the program the national employees outnumbered those of the United States. At one time the nationals numbered over 14,000, but were for the most part lacking in the necessary specialized training. As of June 30, 1951, there were in all countries about 110 Institute employees in the health field compared to approximately 7,100 national employees of the various Servicios.

As these nationals and others had been trained and had gained experience in the operations of the cooperative program they assumed greater responsibilities and thus, as in financial contributions, the contributions in technical skills by the various countries had greatly increased.

THIRD PARTY CONTRIBUTIONS

Through June 30, 1951, "third party" contributions to the extent of almost ten million dollars had been made to the cooperative health program. For the most part these funds were put up by local governments and local citizens groups as a further inducement to secure Servicio assistance in some local project such as a water supply or sewer system, or a local hospital or health center. As in the case previously cited, involving the construction of water supply systems in Venezuela, the Servicio would not, by policy, undertake a project until a State, acting as a third party to a special project, should commit itself to contribute two-thirds of the funds.

Contributions in Kind.--In addition to the ten million dollars of third party contributions in funds, a large part of an estimated six and one-half million dollar contribution in kind has been made by third parties. The estimate in this category is probably very conservative. Lack of uniformity in the reporting process among the various Servicios makes a more accurate figure unobtainable.

The variety of forms which third party contributions take, makes for considerable

*Data Book, Department of State, Washington, D. C. - June, 1951.

difficulty in obtaining accurate estimates. For example, inhabitants of certain villages in Honduras contributed their own labor to dig ditches and carried water pipe by burro. When the trails ended, they carried the pipe on their own backs over a range of mountains, in order to get a safe water supply.

The waiving by the host country of import duties on materials imported by the Servicio has been a rather questionable "contribution" to the cooperative program but it has been so labeled in some countries. Less controversial has been the furnishing of free telephone, telegraph and transportation facilities to Servicio personnel. The major portion of the contributions in kind, however, has come from gifts in the form of land or buildings.

Intangible Values

The value derived from third party contributions is far greater than any monetary approximation would indicate. It has been well demonstrated in many countries that the monetary contributions are manifestations of the interest of the community in a project to be developed. Experience has shown that where the people of the community have had an active part in the planning, financing and development of a facility, the chances that it would continue to operate at a satisfactory level of efficiency were much greater than in other cases.

There are too many examples of Servicios having developed facilities, perhaps upon a valid basis of greatest need, but without sufficient attention to community understanding, encouragement of community participation and careful evaluation of community economic status as relating to financial ability necessary for maintenance.

THE FIELD PARTY

The group of technicians sent to the various countries by the Institute and known as the "field party", has usually numbered less than ten people in each country. Each field party is under the direction of a chief who is either a physician or an engineer. There is also in each field party a business manager who has the responsibility for the business administrative functions of the field party and, in most cases, of the Servicio. In addition, depending upon program requirements (and successful recruitment) there may be one or more of the following: nurses, physicians, engineers, health educators, hospital administrators, industrial hygienists, laboratory technicians or other specialized personnel. In some instances it has been necessary to employ bilingual secretaries from outside the country because of the shortage of such personnel in the particular country of operation. At times, and usually for limited periods, such technicians as a well drilling expert, a plumber, a construction foreman, and an electrical engineer have been employed.

THE SERVICIO

The Servicio has come to be the trademark of the Institute of Inter-American Affairs. It establishes the administrative framework within which the two countries, party to a bilateral agreement, pool a portion of their financial and technical resources in order, in the case of health, to raise the health level of the host nation and promote, develop and perpetuate a sound health program.

In most countries, the Servicio is set up as a major operating division of the Ministry of Health. The director is on the same level as the other major division heads who are usually called "directors general" and organizational charts show the director of the Servicio reporting directly to the minister. The only exception to this general pattern is in Chile where the Servicio (in this case called a "Departamento") is within the National Health Service and the administrative line runs from the director of the Servicio to the Director General of Health and then to the Minister of Health.

The Chief of Party

As previously mentioned, the Director of the Servicio is usually the chief of field party. At the inception of the program this was true in all cases. After two years of

operation in Brazil, however, it was decided that the chief of party could step aside with a Brazilian becoming the administrative head of the organization. The chief of party continued to approve all expenditures of Servicio funds as the United States representative and served in an advisory capacity to the Brazilian director (called "Superintendente"). As local counterparts of other members of the field party were trained to the point where they could assume the responsibility for direct program administration, the other United States technicians in Brazil also stepped aside and become consultants.

It is felt that this is a desirable pattern of operation and it should be followed to the extent practicable in other countries. In the more advanced countries there seems to be little justification for failure to develop local personnel, thus making possible the transfer of operational responsibility in a relatively short time. In others, because of such factors as frequent changes in government, general economic and political instability and a scarcity of trained personnel, the process necessarily must be much slower. Every effort should be made in all countries to develop local counterparts of the United States technicians in addition to wider training programs which the Servicios carry on, even though it may not be practicable to turn over complete administrative responsibility for some time.

Until he can step aside and be replaced by a national, the head of the technical group of Institute personnel generally has what is really a dual administrative responsibility. As chief of party he is responsible to the director of the Institute's Division of Health, Welfare and Housing* for the supervision of Institute personnel in the field and for the Institute's participation in the cooperative program. As such, he is on equal footing with the Minister of Health in negotiating basic agreements and in determining the program to be followed by the Servicio. However, at least theoretically, the director of the Servicio is subject to the administrative direction of the minister because of the fact that the Servicio is a part of the ministry. There is a considerable variation from country to country as to how much administrative direction is given by the minister, but in most countries it appears that the chief of field party has exercised very wide latitude in determining program content and in supervising its execution.

*Name changed in 1951 from Division of Health and Sanitation.

Indistinct Lines of Authority

In most countries, the director of the Servicio has complete authority to employ, discipline and discharge local employees of the Servicio. Some agreements call for the actual appointments to be made by the minister or the "executive power", but this is almost completely a formality. In some countries, appointments are cleared with the Minister of Health as a courtesy, even though agreements do not call for it; while in others, only appointments to key positions are similarly cleared. Only in a few instances did it appear that local politics or pressure from local officials had influenced the appointment of personnel.

Audits

In most countries, the funds of the Servicio are expended on the authorization of the director of the Servicio; although, in a few countries, a counter signature of a representative of the minister is needed. This representative may be an employee of the Servicio, so there is little real check on the authority of the director in the expenditure of funds within the general provisions of project agreements.

The agreements with the various countries provide that the accounts and records of the Servicios shall be open to inspection and audit by both the host government and by the Institute, representing the United States Government. In practice, however, in only one or two countries has the host government conducted a limited audit of the Servicio since the inception of the program.

The Institute's auditors plan to audit the accounts of each Servicio once a year, but

this has not been possible because of shortage of Institute funds. In fact, because of limitations in personnel, some Servicios have not been audited for periods of several years. Some chiefs of party have requested audits of the Servicio prior to their assuming responsibility for its operation, but this has not been done.

Relationship to Other Ministries

Although the Servicio is an administrative unit of the Ministry of Health, some members of the field party in most countries are engaged in work as consultants to, or closely associated with, another ministry or unit of government outside the Ministry of Health. For example, it is not unusual for a nurse consultant assigned to the field party to have as her primary assignment, work with a school of nursing located in the Ministry of Education or some other branch of government.

The Servicio may be conducting a major program which not only involves working closely with another ministry but it may actually be performing activities which would normally be performed by another ministry. For example, in Ecuador the Servicio has engaged in a large program of building water supply and sewage systems. This would normally be the function of the Ministry of Public Works and the Servicio's activities in that field of necessity have been closely coordinated with that ministry's activities.

It has become clear that in the establishment of a Servicio it should be administratively attached to that ministry of government having the major responsibility for the field of activity for which the Servicio is established.

In the case of Servicios established in the field of health and sanitation in Latin America, the choice of ministries is fairly obvious since most ministries of health have the major responsibility for public health, and a substantial responsibility for hospital and institutional care.*

It is of paramount importance that all activities of the Servicio be carried out in close collaboration with that unit of the national government which has the responsibility for the specific function or which will be expected to assume such responsibility at the time the Servicio can turn it over for local administration.

Internal Operations

Members of field parties occupy dominant positions in the Servicio's administration. There has not been a uniform definition of their administrative responsibilities with relation to the Servicio's national employees, but their influence on administration does not appear to have been greatly lessened by this lack. In all countries, except Brazil, the chief of party is the director of the Servicio. In some countries, other members of the field party hold administrative positions within the Servicio and are given official recognition by appointment from the national government; in others by designation of the director of the Servicio but with no further official recognition.

Consultants.--In Chile, the field party members, with the exception of the chief of party, hold official positions within the Servicio but are designated as "consultants" to a national counterpart. It appeared that the relative influence exerted by the different members of the field party on the administration of the program was dependent much more upon the individual's personal equipment than upon his official designation.

Degree of Autonomy

The chief of party, in his capacity as director of the Servicio, enjoys a high

*Many of the ministries of health may also have functions other than health and it is not unusual to find education, welfare and other functions in the same ministry. The "Ministerio de Provision Social" of Ecuador has responsibility for public health, the federally administered hospitals, welfare, labor and the National Fire Fighting Service.

degree of administrative autonomy. He usually has complete responsibility for determining the internal administrative organization of the Servicio and most of the operational procedures and methods. The organizational structure and operational efficiency of the various Servicios reflect to a large extent the administrative competence of present and past chiefs of party.

Supervision

As there are great differences in the size and type of program in the various countries, it is to be expected that organizational differences should exist. Even so, the various programs illustrate extremes both of well organized operations with defined administrative lines of authority and responsibility, and of poorly organized operations without clearly defined lines of authority and responsibility. In some cases, the absence of sound administrative management within the Servicio appears to have created intra-party friction and to have led to inefficient operations and a resulting loss of prestige with the nationals.

Proper supervision within a field party and Servicio can only be achieved when the organizational structure is so defined that all employees have a clear understanding of their responsibility and authority, including their administrative "chain of command". It is extremely important that the chief of party give impartial and adequate supervision and consultation to Institute and national personnel responsible for each type of activity. It is also important that the members of the field party keep the chief informed of developments in their programs, particularly if these developments are likely to have implications which would affect the total Servicio program.

In the selection, assignment, and Washington office contacts with chiefs of field party, it appeared to the evaluators that more stress might well be laid on the importance of continuity and consistency in the development of a bilateral health program. They felt that means should be sought by which to minimize shifts in emphasis stemming from other than detailed knowledge and careful analysis of actual needs and available resources and facilities for meeting them. In several countries there was observed a marked vacillation in the program emphasis from the medical to sanitary engineering, and vice versa, which seemed to be remarkably correlated with the periods of assignment of physicians and engineers as chiefs of party.

The Business Manager

There is considerable evidence that the authority of the chief of party has not been sufficiently well defined, particularly as it relates to the financial and business administration aspects of field party and Servicio operations.

The business managers, who are a part of all field parties, were for a time recruited by the Administrative Division of the Washington office. In practice they received many of their working instructions from and made reports to that division, by-passing to some extent the chief of party. At the same time, there was some evidence that the chief of party, who was either a physician or an engineer, had an inclination to concern himself primarily with his technical specialty rather than accept full administrative responsibility for the program.

Administrative responsibility on the part of the Business Manager and the Chief of Party should be clearly defined.

The Director of Technical Cooperation

Recently the Institute adopted a plan under which a Director of Technical Cooperation was named for each country and the chief of each field party (Health, Agriculture, Education, etc.) made administratively responsible to him. It was provided that on his immediate staff would be a Director of Administrative Services. Section R-2 of the Administrative Manual of the Institute, revised January 1, 1952, provided that the Director of Administrative Services, under the direction of the Director of Technical Cooperation, should have the responsibility...(b) "To provide technical supervision over the business managers and administrative officers

in the performance of fiscal and business management activities for the respective field parties or groups". Somewhat inconsistently, however, this same document provides: "The functions of each Business Manager or Administrative Officer shall be performed under the supervision and direction of the Chief of Field Party..." It is felt that it would be conducive to a clearer understanding of administrative authority and responsibility if the director of administrative services were "to provide technical 'advice and consultation' to the business managers..." with all official orders or instructions, even though they may originate with the director of administrative services, transmitted to the business manager by the chief of party.

Insufficient Emphasis on Basic Public Administration Methods

During the ten years of the cooperative program, the Servicios have concentrated on the development of technical skills and competence in the field of health and sanitation and have to a large extent neglected to assist in the development of sound administrative methods and safeguards within the structure of the host government. The development of such administrative devices is necessary for the successful utilization by the host government of the acquired knowledges and skills in disease prevention and medical care.

One of the widely ascribed reasons for the success of the Servicio as an administrative device has been its corporate-like structure, which permits expeditious and systematic operations free from superfluous administrative routine such as is characteristic of much in both the United States and Latin American Governments. Yet little has been done outside the Servicio itself to assist the host governments to establish effective personnel policies and procedures, modern accounting methods, organizational structures conducive to good administration or effective procurement or property control systems. At the same time, the absence of these very elements of sound administration in the host government is given as a major reason why projects and services developed by the Servicio cannot be turned over to the host government for operation.

In Brazil, for example, where the Servicio enjoys a position of considerable prestige, it is generally recognized that the administrative organization and the relationships of the various governmental units responsible for health services constitute a major barrier to the development of a strong and effective health program for the nation. Yet the Servicio has apparently made little or no effort to use its prestige to influence better organization.

The very existence of the Servicio, while undoubtedly rendering great services to specific areas of the country, has at the same time further complicated the administrative organization of the total health services of the country. With certain programs of the Servicio developed to a point of logical transfer to Brazilian administration, there is no appropriate agency to which to transfer them because of the diffused administrative responsibilities of the Federal, State and local health agencies.

The Institute has recently engaged staff to work in the field of public administration which should provide some assistance to chiefs of party in that field. But, assuming the availability of well trained business managers, it is felt that more could have been done during the past ten years to strengthen the business administration of the ministries of health and thus help in providing a more favorable setting for the operation of projects demonstrated by the Servicios and then turned over to the ministries for operation. The training received by nationals working in the Servicios who have subsequently become employed in some other branch of the ministries of health has had a positive effect on orderly management, but the problem has not, in the opinion of the evaluators, been attacked in a manner sufficiently direct.

Personnel Practices

The almost complete control exercised by the director of the Servicio in the

selection of its personnel (excluding United States field party members) has been mentioned. In the course of the survey an instance was found in only one country in which a minister's insistence on exercise of his right to veto personnel appointments created an administrative problem of any magnitude. In most countries, the director has had almost complete freedom in selecting personnel, setting their pay rates, and determining other personnel policies and procedures.

Classification.--The majority of the Servicios have no formal personnel systems establishing policy and procedures. A few follow pay scales set up by the national government for other employees but such scales, in the absence of job analysis and classification, mean very little in assuring equal pay for equal work. In only one country, Bolivia, was an attempt being made by the Servicio to classify positions and to employ personnel on the basis of competitive examination. This Servicio also has an established efficiency rating system for the purpose of evaluating the performance of the employees on the job.

Rates of Pay.--There was noted considerable variation in the pay levels of the Servicios in relation to the general rates of pay of the national governments. In most countries, Servicios are said to pay equivalent or higher rates than the rest of the government but not higher than private industry. The validity of this observation cannot be established in view of the lack of uniformity of pay practices among the various ministries of the same government and in the absence of any scientific collection of wage data.

It is felt that the Servicios could profitably give greater attention to the development of personnel policies and procedures. Formal personnel policies for cooperating nations, with regard to hours of work, annual and sick leave provisions, and similar basic criteria of personnel administration, could be further developed.

It should be emphasized that while there is a certain minimum of personnel policy which should be formalized in each Servicio, the varied conditions in each country would have to be given paramount consideration in determining the degree of refinement and complexity in formal recruitment, classification, and compensation programs. For example, in Venezuela the Servicio is engaged in only one type of activity, the development of small water supply systems. The Servicio is relatively small in numbers and the local labor market is extremely tight. It would be ill advised for this Servicio at present to set up a system of competitive recruitment such as is successfully functioning in Bolivia. On the other hand, the Government of Venezuela, including the Servicio, is finding it extremely difficult to secure qualified personnel because it pays salaries, at least in some categories, generally lower than the competitive rate in the community. The Servicio might well use its influence in attempting to get a more equitable salary plan in effect, based on a scientific study of the manpower problem in that country.

EVALUATION OF THE SERVICIO AS AN ADMINISTRATIVE DEVICE

In considering the Servicio as an administrative device for implementing a cooperative program such as the one covered by this report, the evaluators found it necessary to consider both the positive and negative aspects of such an arrangement. No contention was made that other administrative arrangements might not provide for the specific point discussed. The primary purpose was to point out that the Servicio, as an administrative device, has certain administrative advantages as compared to disadvantages apparent in its operations.

Following were findings:

On the Positive Side

An Organizational Framework for Technical Assistance.--The Servicio is an actual administrative unit of the host country. Thus, technicians arriving from the United States have an established base of operations with facilities for office space, clerical assistance, supplies, telephones, and related supplies and services.

Of even greater importance is the fact that the Servicios have existed in most countries as a stable unit of government for ten years, thus permitting the establishment and maintenance of lines of communication and contact with all other officials and offices of the host government.

A large body of knowledge exists within the Servicio personnel regarding the operations of the host government which may affect the work of the Servicio. Knowledge of local protocol and of the methods and channels to be followed for the most expeditious application of the technical skills represented in the Field Party is preserved, even though the personnel of the Field Party changes.

Official Status.--Opportunity for accomplishment of objectives by the Field Party is greatly enhanced by the official status accorded the Servicio. Many doors are open and operational facilities made available which would not otherwise be, at least without time-consuming negotiations.

As an official part of the national ministry, the Servicio, under the direction of the chief of party, is in a position to carry out an operational program. Thus, once the minister and the chief of party have agreed upon a program, the skills of the technical personnel may be applied to demonstrations under controlled conditions. Operational decisions may be made largely without regard to political considerations. With the administrative direction of the program under the direct control of the technical group, it is possible to avoid many costly, time-consuming and faulty operational decisions which are inevitable if responsibility rests with an untrained or inexperienced administrator. This was important in all countries early in the program and is still of paramount importance in many countries.

Special Operational Facility.--In the agreements between the United States and each Latin American country in which Servicios have been established, there are provisions which make it possible for the Servicios to operate in a preferential setting. The authority of the chief of party to approve projects and put them into operation without prior clearance with Washington makes possible the rapid translation of plans into action. At the same time, the Servicio is largely freed from the administrative controls and "red tape" of both the host government and the United States Government.

In many Latin American governments, procurement procedures are extremely involved. It is usually necessary to prepare a series of documents in multiple copies and have them approved by a host of officials. More often than not this process requires the final signature of the minister in order to procure anything from a postage stamp to a shipload of construction supplies. Many of the procurement procedures of the United States Government are only slightly less involved. The Servicios are in large degree freed from such routines by the provisions of the basic agreements. As a result, they are able to secure supplies and transform work plans into action with a promptness previously unknown to most governmental agencies.

Most agreements also give the Servicios a high degree of autonomy with regard to personnel practices, accounting and record keeping, and other administrative activities. Thus, it can adopt or demonstrate the advantages of practices of the host government in fields which are appropriate.

Continuous Operation.--The fact that the Servicio was not conceived as a short term "study and report" type of operation has proved to be advantageous in several respects. Over a period of years the technical personnel can develop a considerable body of knowledge regarding the peculiar health problems as well as the broader socio-economic and political characteristics of the particular country to which they are assigned. Because of the continuous operation of the Servicio in most countries, there is no break in the acquisition of this important background knowledge, and newly assigned technical staff may be readily oriented.

In the archives of Latin American government at all levels, as in the United States, are many studies and reports perhaps well conceived and presented and representing considerable outlay, which contain recommendations never put into effect. There are, of course, many reasons why sound recommendations never reach the execution stage, such as lack of adequate appropriations, an uninitiated legislative body, or opposition of interests within or without the government. But one outstanding reason is that the persons to whom the recommendations are directed in so many instances do not know how to go about initiating the changes suggested. The principle of "laissez faire" is much less wearing. It seems fair to conclude, therefore, that a large part of the success and popularity of the Servicio has been due to the fact that in actual operation it has provided dramatic demonstrations and has developed impact programs instead of making recommendations and leaving them to inexperienced, and to a large extent untrained, officials to carry out.

Characteristics of a locality often require the adaptation of tried methods. They may be physical, social, economic, or political. Too often the technician in a survey and report operation is unable to perceive the adaptations necessary, with the result that the entire report is jeopardized in the minds of the nationals to whom it is directed.

In contrast, the Servicio type of operation allows the technician to make his "report" in the form of an actual demonstration project, with regional characteristics taken into account and with the collaboration of the national officials. Thus, with the freedom of an author, the technician may adapt his acquired skills and knowledges as operations dictate and submit a "final report" in the form of an operating service. Moreover, the nationals who have participated in the planning and execution of such a project are familiar, in detail, with the services' goals and with its technical operation.

A Base for Training Nationals.--The vital role played by the training of nationals in a cooperative program is discussed at another point in this report. A most important practice followed by various agencies, as a part of a technical assistance program, is the providing of scholarships and travel grants for study in the United States and other countries.

The Servicios utilize this practice with a high degree of success. As part of the host government, the Servicio is in position to evaluate at first hand the qualifications of applicants for such training. Equally as important, Servicio personnel are in a position to appraise in advance the opportunities that the national, once trained, will have to utilize his training in the services of his country. The Servicio itself provides an operating program to which many trainees return for the first application of their newly acquired skills.

Of importance at least equal to the formal training program, is the training of nationals through the every-day operation of the Servicio program. For example, when Servicios were established in many countries, few if any national sanitary engineers were available. The Servicio, therefore, employed civil engineers or others with engineering training or experience. These nationals were given work assignments under the supervision of the field party's sanitary engineers in the design and construction of water supply and sewer systems and on malaria control and other public health engineering projects. They received their specialized training by doing, and became well equipped for their work. The Servicio, by the nature of its structure and function, makes this type of training a most effective contribution to the cooperative program.

A Base for Indirect Assistance.--Whether a Servicio program is carried out as a demonstration project or impact program, such as yaws control, actual operations and administrative direction rests within the Servicio. Technicians, therefore, may be assigned to the field party, using Servicio facilities, who may be serving in a consultative capacity to another ministry or unit of government. By having the Servicio as a base of operations, such a consultant operates in a pref-

erential setting as compared with the consultant coming in with no previously established base of operation and lacking the official status attached to the Servicio.

Since the Servicio functions as a part of the government of the host country and is closely associated with the operations of other branches of that government, the technicians of the Servicio are in a good position to judge where grants-in-aid may effectively be made. Certainly, it would appear that where the grant-in-aid is used in a technical assistance program, the guidance of on-the-spot field party personnel would be imperative.

The Servicio, by reason of its unusual freedom of action, is in a position to make studies and conduct research programs either as a part of its own program planning or as aid to other units of government. Such research has the great advantage of intimate knowledge of the relevant factors within the country and close cooperation with other governmental and private agencies in the country.

A Stable Base.--The relative instability and frequent change of governments in some Latin American countries is a factor which has demanded serious consideration by both government and private industry in their relationships with these countries. The Servicios have proven to be a stable base of operations for the technical assistance program, subject to minimum effect by political change in the host country. The written basic contract under which the Servicio operates, with its great prestige as an international agreement, has been honored without exception by all governments, whether they have come to power by election or otherwise. It has demonstrated that when there is a change in government or a change in the ministry of health, which in some countries is quite frequent, the previously agreed upon technical cooperation program continues on until the new government or the new minister becomes sufficiently oriented to plan new projects with the chief of party. It is true that in some instances a new minister may change the emphasis of a program, but observation has led to the conclusion that changes in the chief of party have had more apparent effect upon changing the emphasis of the cooperative program than have changes in the host government. The popularity of the Servicios' programs have often led to the indorsement of their activities by all political factions, at least the elimination of their activities from discussion in political campaigns.

A Facility for Training in General Administration.--The opportunity which exists because of the nature of the Servicio, for the training of nationals in many aspects of general administration is one of the strong positive factors in favor of the type of administrative arrangement it represents.

Experience has demonstrated with clarity that successful development of a health program cannot be accomplished by the development of skills in the field of medicine and engineering alone. Basic principles of general administration must be developed in any government before highly technical skills in such fields as health, education or agriculture can attain the desired ends. The Servicio as an operating agency under the direction of, or greatly influenced by, the chief of party, offers an excellent base for demonstrating techniques in personnel administration, financial administration, procurement and property control and orderly office management. Through the business manager and other members of the field party it should be possible to assist the ministries to improve their systems in these various fields which would go a long way to assure that the programs developed by the Servicios would have a much greater chance for continued operation at a reasonable level of competence when turned over to the ministries for operation.

On the Negative Side

Divided Authority and Responsibility.--It is a generally recognized principle of administration that divided authority over and responsibility for the operation of a program usually lead to confusion, ir responsibility and failure of the program to achieve the desired results. The co-

operative program by its very nature implies that the ultimate responsibility for and authority over it rest with two sovereign governments. The framers of the Institute's program seem to have met this problem primarily by the delegation of authority and responsibility for program planning and operation, as applied to any one country, to the chief of party in that country. The host governments agreed to the designation of the chief of party as the directors of the Servicio, and in practice have delegated practically complete operational responsibility to them. Thus, the chief of party of each Servicio may put into action a program when he obtains the concurrence of the minister of health on specific projects, so long as they fall within the general framework of the bilateral agreement. The project agreements, while not requiring prior approval by Washington, are subsequently reviewed there for form and legal commitments which may be involved.

The mere delegation of authority to the chief of party does not completely solve the problem of dual responsibility, although it has unquestionably done much to facilitate operations.

One of the obvious possibilities of a program involving two sovereign jurisdictions, with a director of a program responsible in part to each, is that by adroitly playing one against the other the director may divest himself of any practical responsibility to either. The same situation may develop if the responsible officials of both jurisdictions fail to exercise their prerogatives of participation in program planning and execution and the chief of party is left entirely to his own devices. There are indications that elements of both of these situations have developed in some of the programs.

The chiefs of party have considerable prestige in most of the Latin American countries. They are official representatives of the United States Government. In some cases their salary is higher than that of the highest paid national government official. Each has a considerable budget at his disposal with few of the checks and controls imposed upon other operating officials by both countries. In some countries, because of the comparatively high efficiency demonstrated by the Servicio, it is asked to assume the role of purchasing and importing agent for other sections of the host government. This often involves the handling of considerable sums of money in excess of the budget of the Servicio and not subject to the same control and audit as are the Servicio funds.

All of the factors mentioned make it clearly impractical for the Institute to delegate completely its responsibility for the Servicios' operations, and necessitates a bifurcated administration by the two governments involved. This also further emphasizes the absolute necessity of having outstanding administrators as chiefs of party.

Danger of Institutionalization and Self-Perpetuation. Inherent in the administration of the Servicios is the danger that they will develop into governmental institutions interested in self-perpetuation and losing sight of the fact that their existence is solely for the purpose of assisting a national government in strengthening existing units of government, or developing new units, all to be eventually fitted into a unified and harmonious national governmental operation in a particular field of endeavor. Operating in a preferential setting, it is much easier for the Servicio to develop and maintain specific health services at a high level of efficiency than it is in the normal operations of most units of national government. Because of an understandable pride of accomplishment and a reluctance to see the developed services undergo any unfavorable change, there has been a decided tendency to continue the programs and facilities under the auspices of the Servicio for longer periods of time than would appear to be desirable.

The survey revealed many instances which would tend to confirm the danger of this element of self-perpetuation developing in Servicio programs. A contributing factor may be that of permitting a chief of party to remain in one country for such a long period of time that he,

as well as the Servicio, becomes regarded as a community institution and tendencies toward self-perpetuation, conscious or otherwise, become more pronounced.

A Conclusion

In considering the advantages and disadvantages of the Servicio as an administrative device the evaluators reached a conclusion that while, in actual operation, full use has not been made of its positive administrative potential, not many of the negative possibilities have materialized to an extent to cause serious concern regarding the technique.

They agreed that over a period of ten years it has worked, and worked well, and that program accomplishments through the Servicio type of operation have been unquestionably highly successful. They concurred in the view that certainly no other type of inter-governmental organization has been as thoroughly tested over such a period of time and in such a setting and found to be so successful.

RECRUITMENT OF FIELD PARTY STAFF

Probably the greatest single factor influencing the cooperative program is the kind of personnel employed by the Institute for assignment to the field parties.

At the beginning of the cooperative program, Major General (then Colonel) George C. Dunham was assigned to the Institute by the United States Army for the purpose of initiating and directing the cooperative program. Because of his official connections with the Army it was possible in the early years of the Institute's life to recruit many physicians and engineers by having the Army assign them to duty with the Institute. This was an important source of talent in days when recruitment of competent personnel in these fields was extremely difficult. After the war many of these officials stayed on with the Institute in a civilian capacity. More recently the Public Health Service has assisted in the recruitment of technical staff for the Institute.

From the beginning of the program the Division of Health and Sanitation has had primary, and most of the time exclusive, responsibility within the Institute for the recruitment of all personnel in that division. Professional contacts of employees came to be relied upon to a great extent as a base for recruitment of new staff. Quite recently the Personnel Division of the Institute has taken a more active part in seeking qualified staff, with a panel of top Institute officials reviewing nominations of personnel for field assignment.

Personnel Screening

The importance of securing the best qualified persons available for field assignments in all capacities cannot be overemphasized. When, as in a Servicio, each individual represents the United States Government in the minds of all the local people with whom he works, the results of his inadequacies are particularly serious. One "misfit" in a field party can cause more damage to the bilateral relationships and the Servicio program than can be offset by the positive actions of all the other members of the field party. It is, therefore, much better to leave a vacancy in a field party or to have an unfilled request for technical assistance, than to have the position filled by a person who is inadequate from the point of view of technical training or personal attributes.

Techniques have been developed by both government and private industry by which a prospective employee's reactions to given living and working conditions may be measured with some reliability. While in general it appears that the Institute has succeeded in selecting Field Party members able to adapt themselves, there have been a number of notable exceptions which would justify more careful screening of applicants.

Many factors have affected the recruitment of personnel by the Institute. In 1948 budget restrictions on administrative expenses forced a severe reduction of the Washington staff. Subsequently, it was not possible to spend as much time in recruiting and screening personnel for

field assignment as the situation demanded. In the opinion of the evaluators, the success of the program depends so greatly on the securing of qualified personnel that the Institute can ill afford not to spend the money and time necessary to find, screen and orient qualified field staff.

Salaries and Working Conditions

The reservoir of competent trained technicians in the field of health and sanitation in the United States is admittedly well below its own needs. With the expansion of the Point IV Program, the drain on this reservoir made recruitment a really competitive undertaking. For many people, the attractions of foreign assignment are strong. Professional interest and the sense of accomplishment attending most of these assignments are also positive factors in recruiting and retaining qualified personnel.

On the other hand, in most countries of Latin America living conditions are quite different from those in the United States, and schooling facilities are often inferior. The salaries of field staff are not high enough to induce a sufficient number of competent people to leave positions of security to accept positions with the Institute involving a degree of uncertainty of tenure. It is felt that the responsibilities of these field positions, together with the other factors of living conditions and lack of job tenure, justify considerably higher rates of pay in most instances than is now the case.

RELATIONSHIPS OF THE FIELD PARTY AND SERVICIO TO WASHINGTON

Basic Agreements negotiated by the chief of party and the minister of health are usually reviewed in Washington before they are formally signed. Once the Basic Agreement has been signed, the chief of party is authorized to develop and sign specific project agreements and to put programs into operation without further consultation with or approval from Washington. From there on, by reason of severe personnel restrictions, the Institute through its Division of Health and Sanitation has been unable to exercise much control over the cooperative program.

Field Liaison

Besides the Director and Associate Director of the Division of Health and Sanitation, for the past few years, there have been: A physician, concerned primarily with training of Latin Americans in the United States; a chief engineer, who has assisted to a great extent in the general administration of the division; and a chief nurse.

Liaison with the field has consisted of occasional field trips of relatively short duration, by the director or associate director, and more frequently by the nurse. The President of the Institute has also made field trips as time permitted, but his concern is the total program of the Institute and not the health and sanitation activities alone. To visit each of the countries in which there are health and sanitation Servicios for a period of only one week would require one person to travel approximately half of each year. Furthermore, no adequate knowledge of country or program can be attained by a single individual on the basis of a one-week visit.

Written reports submitted by the field parties have helped to keep the Washington staff informed of local developments, but these have not been uniform and appear entirely inadequate as a substitute for personal liaison with the field.

It is quite apparent that the chiefs of party have not only had considerable latitude in determining program content and in supervising operations, but also, that there has been little planned and orderly review of the accomplishments and program trends in all countries by the Washington office.

In 1948, Congress imposed an arbitrary limit on administrative expenses of the Washington office of the Institute for the 1949 fiscal year. This restriction forced an almost 50 per cent reduction

in staff assigned to that office and, undoubtedly, seriously affected the maintenance of a proper liaison with the work in Latin America. In a memorandum prepared for the Board of Directors on July 28, 1948, by the then President of the Institute, Mr. Dillon S. Myer, a reference to the effects of the budget restriction was as follows:

> "Administrative and legal services by the Washington Office are curtailed greatly or in some instances eliminated. The elimination of the traveling audit staff, together with the discontinuance of one attorney position and curtailment of travel funds for the General Counsel's office means that the Institute will have little of critical, on-the-spot examinations of field operations by fiscal or legal representatives of the Washington Office. No extended discussion is necessary to emphasize the need for, and value of such reviews. In this connection, the Institute has been forced virtually to eliminate the Foreign Accounts Unit of the Audit Section in the Washington Office."

A Need for Consultants

While this may account for an important part of the rather extensive gulf that appears to have existed between Washington and the field, there have been other elements that do not appear to have existed in an effective manner.

The evaluators felt that there should be on the Institute staff consultants having a broad background in public health and experience in program planning and administration. Specialized consultants should also be provided in all major areas of Servicio activity in sufficient numbers to allow them to arrange orderly schedules of visits based on sound administrative criteria as well as on formal requests from field parties. Both of the above-mentioned types of consultants should be employed by the Institute on a continuing basis.

Additionally, there often has been the need for specialized consultants for a relatively short period, usually six months or less, who can be made available on a loan basis from their regular positions in the United States.

The Generalist.--The need for the broadly trained consultant or "generalist" in the health field is, the evaluators agreed, of paramount importance. Because of the limited time he or his associate can spend in the field, it has not been possible for the division director to keep himself and other executive officials of the Institute sufficiently familiar with the programs in the various countries. Likewise, there is considerable evidence that the chiefs of party need assistance in planning their programs. The "generalist" should have no administrative responsibility for any country program and would interfere in no way with the authority of the chief of party over the field party and the Servicio. His relationship to the chief of party would be entirely advisory.

One of the contributions that could be made by such consultants would be that ideas and methods of operation tried and found to be successful in one country could be suggested for trial in other countries. Thus could be utilized a great pool of technical knowledge acquired in the actual operations of these programs.

Such a system would also make possible more effective use of the combined technical knowledges and skills represented in the various members of the field parties by facilitating their assignment and reassignment to the various field parties.

The number of such general consultants should probably be determined on the basis of gradual experimentation in their use.

The basic reason for having technicians of the United States in the cooperative program is to bring the nation's technical knowledges and skills to the host country. Some members of field parties have lived outside the United States for periods as long as ten years continuously. Even for those who have been in foreign countries for only two, three, or four years, it is very difficult for them to keep informed on technological development in the United States and abreast of developments in their particular pro-

fessions. One very important function of the consultant should be to assist in bridging this gap.

In the opinion of the evaluators, therefore, there should be regular staff assigned in the above described liaison capacities to aid the field party with its program planning and evaluation on the one hand and to keep the Washington officials better informed regarding program needs and development in the field on the other.

The Short Term Consultant.--The third type of consultant proposed would serve as a short term member of the field party. A field party might have a project involving a particularly difficult construction problem. A sixty to ninety day assignment of a construction engineer, an architect, or perhaps a hospital planner might be highly desirable, depending on the peculiar problem involved and the skills represented by the regular field party staff. In another instance, it might be necessary to make certain specialized statistical studies as a basis for initiating a particular program. Nationals of the country with basic knowledges of statistical procedures might be available but in need of guidance for the specific specialized study. In such a situation a qualified technician on loan or on leave could make a substantial contribution.

In these and many other situations specialized help on a short term basis could give invaluable assistance to a particular program. It is often possible to secure well trained, experienced people for short term assignments on leave from regular assignments in the United States who would not be available for regular staff assignments with the Institute.

More emphasis should be given by the field parties in requesting this type of personnel and by the Institute in securing it. There appears to be a tendency to look only to other Federal agencies in the recruitment of personnel, thus ignoring the potential of state and local governments, universities and private organizations and the many international organizations. This should be corrected.

The institute has used the short term consultant in the past to a limited extent, primarily in Brazil, and with apparent success. Certain definite steps should be taken to assure that proper benefits are derived. The chief of party should clearly define the responsibilities of such a consultant and there should be a clear understanding by field party members and nationals as to the proposed functions of such a consultant. This information should be given to Washington prior to the recruitment of the individual. The consultant should be given a full explanation of these proposed responsibilities and any others, such as terminal reports which the Washington office might require. Unless the way is prepared by the field party for maximum utilization of the skills of such a person during the period of assignment, the value of such a device might be questioned and the full utilization of the Servicio's unique advantages will not be realized.

Limits and Ratios

The program has been handicapped by lack of sufficient personnel. The limitations on administrative personnel brought about by administrative rulings based upon legal restrictions should be reviewed to the end of benefiting the program.

The present restriction provides for an overall ceiling of approximately 160 positions for employees attached to the Washington office. This allows the Division of Health and Sanitation less than twenty positions in all categories in the Washington office. The apparent theory of such a limitation is that it prevents the establishment of an administrative office in Washington out of proportion to the activities in the field. While there are only approximately 110 employees of the Institute in the field, they are responsible for Servicio programs in which over 7,100 nationals in 17 different countries are employed. Thus, the operating ratio is approximately one Washington employee to 360 employees under the administrative direction of the Servicios in 17 countries.

In the future, the ratio of North Americans to nationals should decrease even

more as the effects of training and experience of the nationals is realized. In this case a consultant out of Washington might bear the same relationship to a national employee of the ministry as he would now bear to a United States member of the field party. For example, the nursing profession in Brazil has developed to such an extent that a Brazilian nurse is administrative head of the nursing activities of the Servicio. The field party nurses serve as consultants.

It would seem that a next logical step in turning over complete responsibility to the nationals would be to provide consultant service on a part time basis rather than full time. Such consultation might most effectively be furnished by a consultant attached to the Washington office but spending a large part of his or her time in Latin America.

THE TECHNICAL POOL

When it became necessary severely to reduce the administrative expenses of the Washington office in fiscal year 1949, consultants on the staff in various specialties were assigned to field headquarters in different countries and became known as the "Technical Pool". Since then there have been assigned to the technical pool one or more nurses, hospital administrators, industrial hygienists, health educators, statisticians, architects, and other specialists.

The members of the pool are assigned to headquarters in a particular country and usually spend most of their time there. Occasionally, when their services are requested by the chief of party in another country, they are transferred for a short period. While on assignment a member of the pool is under the administrative direction of the chief of party of the assigned country and becomes in effect a short time or, in the case of their headquarters country, a part time member of that field party. With a few exceptions, technical pool members spend little more time in Washington than other members of field parties.

It has been remarked that the pool is really not a pool, but rather a series of puddles, because never have all of its members been located in one place; never have they been responsible to one administrative head; never have they met for the purpose of "pooling" their acquired knowledges of various country programs or to assist jointly in program planning.

Moreover, there has been no over-all planning between Washington and the field parties as to the assignment and continued use of the various members of the pool. There have been instances in which one member of the pool has been directed by Washington to proceed from one country to another, even though quite involved at the time in problems in the first country. The decision to move the technician has, at times, been against the wishes of the chief of party of the country where the technician was based. There is little to indicate that sufficient information regarding comparative needs for the pool members' services was available to the Washington office as a base for decision. Also, because most visits of pool members were made only after a request by the field party, no visits were made to some countries most needing the services because the need was not recognized by the field party.

In some instances, pool members were used for extended periods to substitute for regular members of the field party and in many of their regular assignments the Servicio in their headquarters country could well have justified their use as full time members. The fact that there were so few people assigned to the technical pool most of the time made it impossible for them to spend a sufficient amount of time in each country and to comply with some requests for specialized consultation.

The survey left no doubt that members of the technical pool have made substantial contributions to the program. Their greatest contributions, however, have been made when serving in a capacity similar to that of other members of the field party staff, and when permitted to remain in one place for a relatively long period of time. In effect, they represent supplementation

to the field party staffs which, in many cases, would have been more effectively provided by the full time assignment of a staff specialist in the particular field.

The technical pool has not provided fully effective professional leadership to the field parties. That this is so is not a reflection upon the individual contributions of the members of the pool but is rather the result of undefined organizational relationships.

RECORDS AND REPORTS

The files of the Washington office contain a multitude of interesting and valuable data relating to the operation of the cooperative program over the past ten years. The form and usability of these data, however, restrict their use for some purposes. Reporting on the status of projects both in terms of financial involvements and substantive content, has lacked uniformity and completeness. It should be pointed out, however, that the lack of uniformity results from a corresponding and necessary variation in the form of project agreements in accord with differing local conditions.

The Evaluation Team was confronted with a tremendous task in trying to compile the most basic of statistics regarding past expenditures by type of activity. In many instances it was impossible to make proper breakdowns. As has been pointed out, a proper determination of true administrative costs of Servicio operations is not possible because of the wide variety of activities charged to the administrative projects. It would require a major expenditure of time and effort to analyze and classify the special projects which the Institute has undertaken and to determine expenditures by types of activity. It must be recognized that the reporting system was not designed to provide this kind of information.

The fact seems to emphasize the extent to which the Washington office has delegated planning and evaluation to the field.

The reporting process from the field has also been rather confused. Field parties have been requested, at times, to furnish essentially the same information to two or more divisions of the Washington office. Within a period of two months the Division of Health, Welfare and Housing, the office of the legal counsel and the office of information requested separate reports of essentially the same subject matter.

In the opinion of the evaluation group, it is highly desirable that the Institute, by special project or otherwise, arrange for a detailed review of its reporting practices, a classification of valuable file material on hand, and establishment of a system for maintaining essential financial and program information in a readily available and usable form.

CHAPTER 4.--PROGRAM PLANNING

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PROGRAM PLANNING

In undertaking to examine and appraise the planning that had gone into ten years of operation of the bilateral health programs of the Institute of Inter-American Affairs, the evaluation team worked from the basis of several general considerations, among them these:

Program planning is one of the most important functions of management whether the enterprise be in the field of business, government or philanthropy.

Experience has shown that the benefits or dividends from operations vary directly with the quality of planning. Poorly conceived plans giving a minimum of benefit usually call for the expenditure of just as much effort and funds in their execution as do good ones.

In the business world an enterprise is established primarily to make money and when dividends cease search is immediately made to determine what is wrong. No such automatic criterion exists to test the efficiency of social organizations such as government and philanthropy. Because of this fact management of these organizations calls for a very highly developed sense of responsibility and critical self evaluation.

By definition a program is a prearranged plan. Also by definition a plan is an arrangement of means or steps for the attainment of some object. From this it appears how dependent program planning is upon objectives. If these are not clearly defined, planning will encounter difficulty in the arrangement of appropriate means or steps to achieve the objective, and the program will lack precision and completeness.

INSTITUTE PROGRAM OBJECTIVES

The evaluators concurred in the view that the program of the Institute of Inter-American Affairs had more precise objectives during its earlier years than in more recent ones. At the time of its establishment the objectives were listed as these:

1. Military: To improve health conditions in strategic areas, particularly with relation to the requirements of the armed forces of the United States and those of its American allies;

2. Political: To carry out the obligations of the United States Government with relation to the health and sanitation program assumed by it under Resolution 30 adopted by the Rio de Janeiro Conference;

3. Productive: To make possible increased production of critical materials in areas where bad health conditions existed;

4. Morale: To demonstrate by deeds as well as words the tangible benefits of democracy in action and to win active support of the civilian population.

The first three of these objectives were intimately geared to the war effort and the success in achievement could be measured objectively by the excellent health records of the armed forces stationed in the American Republics and by the increased production of critical materials in the areas. However, the evaluators agreed that in fairness to the architects of the Institute, it should be pointed out that even though the aims were to meet an emergency need from the moment of its creation, there was a constant interest in long range projects looking towards improvement of conditions in the hemisphere. None the less they felt that the program in the early years must be viewed as a part of the war effort and evaluated on that basis and that a highly creditable level of achievement was attained during this period.

Postwar Objectives

After the Second World War earlier objectives were replaced by others. In Section 2, of the Act of Congress of August 5, 1947, which authorized the continuance of the Institute, it was stated

that the purposes of the Institute should be "to further the general welfare of, and to strengthen friendship and understanding among, the peoples of the American Republics through collaboration with other governments and governmental agencies of the American Republics in planning, initiating, assisting, financing, administering and executing technical programs and projects, especially in the fields of public health, sanitation, agriculture and education."

In line with this directive the Institute declared that the broad, basic objective of its postwar program would be to raise the level of living of the people in the several American Republics, and it viewed this objective as within the framework of a larger one--peace and prosperity in the Western Hemisphere.

Thus the revised objective became general in character and evaluation of success in attaining it was thereby made more difficult. The task was further complicated by the fact that many other influences were at work, striving to achieve the very same objective. Improvement in the level of living involves the coordinated action of human endeavor in all phases of life. To single out the dominant one called for almost super-human wisdom and sagacity. For this reason the evaluators, who were charged to consider but one element of the Institute program, health and sanitation, established the following criteria for their guidance:

1. The extent to which the indigenous health organizations were being developed and stabilized.

2. The rate at which programs and methods were being incorporated into the permanent public health structure.

3. The extent to which health habits and practices of the people were being influenced.

PLANNING AND ADMINISTRATIVE RESPONSIBILITIES

Since the Basic Agreements required the host government to establish within its appropriate ministry a cooperative service, and with the director of this Servicio nearly always the chief of the field party, the chief of party came to have a dual function: to serve as director of Servicio answerable to the minister, and as chief of the field party answerable to the President of the Institute.

Thus it came about that the chief of party was given a principal responsibility for program planning. From the beginning, he and the Minister jointly were expected to prepare a detailed program and plan of operation. Then, as director of the Servicio, the chief of party must administer the program. The nature of the program must be oriented towards achieving the objectives set forth in the Basic Agreements. With these objectives broad and general, it became the task of the Minister and the chief of party to bring them into focus in a specific program.

The evaluators found a range from excellent to mediocre in program planning. There appeared to be a direct correlation between excellence of planning and the number of years a director of Servicio had been in a given assignment. In several countries it was observed that the program had changed with each new chief of field party and therefore the value that might be expected from prolonged intensive efforts was dissipated. Often planning was lost sight of in the pressure of discharging operational responsibilities.

In one country the program during the initial period, starting in 1943, resulted from dictation rather than joint planning. Instead of a decision being reached as to the appropriate type of program based on a study of the country's needs, it was determined ex-cathedra by the Minister and other high government officials. This program was concerned essentially with hospital construction. Ten new hospitals were built and 17 existing ones received substantial additions to their facilities. At the time of the evaluator's visit in late 1951, three of these new hospitals were still not in use nor was it obvious how the funds and personnel necessary for their operation would be secured. This was an example of poor planning or more accurately, of no planning.

FOUNDATION OF GOOD PLANNING

During their field survey in Latin America, the evaluators found an increasingly active interest in program planning. Where the basic facts were incomplete and inadequate, steps were being taken to supplement them. Since evaluation of program called for examination of the nature of the basic facts found to be needed for sound planning, considerable time was given to this phase of the survey. Without attempting to be encyclopaedic, the evaluators identified the following in the range of important areas of knowledge as necessary if not indispensable for program planning in a given country.

Characteristics of the Population

Racial Composition.--This should be determined, since it is well known that susceptibility or resistance to certain diseases are in some way related to race.

Literacy.--This must be known since knowledge of it will have value in deciding upon the most effective means of communication that may be employed. The technics of health education will have to be adjusted accordingly.

Distribution Geographically.--This is likely to have direct bearing on the type of its disease burden and the ease with which it can be reached in a program of health betterment. If the population is predominantly rural the problem of establishing contact between it and the health service will tax the administrator's ingeniousness; this will be all the truer if the rural population lives on scattered farms rather than in villages.

Age.--The age level of the population should be established since program planning will vary in accordance therewith. If the population is a young one with a large proportion in the lower age brackets and a relatively short life expectancy, planning will be concerned with the health hazards of infancy, youth and early adult life rather than with the diseases that characterize old age such as cancer and the degenerative disorders.

Occupations.--These should also be known and their relative frequencies established since it is well recognized that certain of them carry intrinsic health hazards. The lumberjack in the endemic areas of jungle yellow fever is in special danger of contracting the disease. Among certain types of miners silicosis may be a hazard. The factory worker from the rural areas appears to be especially susceptible to tuberculosis. As a result of failure to have built up any resistance because of the infrequency of the disease in the areas of his birth he succumbs more readily to it. This factor combined with poor housing, improper diet and overcrowding, threatens such a worker with a serious hazard. Occupation then must be given due weight in planning health services.

Vital Statistics

Census.--An accurate census is essential in every field of social endeavor. It not only provides the information required to establish the characteristics of the population, but it permits calculation of rates and establishment of base lines which are so necessary in measuring the effectiveness of health programs.

Number of Births, Deaths, Marriages and Divorces.--These should be known, with appropriate breakdowns as to political subdivision in which the event occurred, the sex and the age. An effort must be made to determine the nature of the mechanism established for the collection of vital statistics and the precision with which it functions, otherwise it will be impossible to form a judgment as to the reliability of the statistics or to determine how best they may be improved.

Causes of Death.--These and, if obtainable, the causes of illness, will identify the principal disease burdens of a population and be of the utmost value in program planning. Frequently the incidence of a disease in an area, or in an entire country, is unknown and just as frequently no mechanism for ascertaining the facts exists. In such circumstances a field study to illuminate the subject by sampling the population may have to be undertaken. The prevalence of hookworm infestation was not appreciated in many Latin American

countries thirty years ago any more than it had been in the southern United States, until spot surveys were undertaken in which it was discovered that infestation of the population ranged up to 100 percent and actual disease varied from 10 percent to 50 percent or more.

Average Family Income.--Information as to this is important to the program planner and should be an ever present warning to avoid activities that call for expenditures by householders beyond their financial competence.

Number, Location and Capacity of Health Institutions

The majority of these institutions are concerned with the prevention, diagnosis and treatment of disease. They include the local and state health departments with their health centers, specialized clinics and other preventive services; the laboratories for the control of water, milk and other food products and the diagnosis of morbid conditions; and the hospitals of all types, specialized as well as general. In addition there is another, smaller group of institutions whose importance cannot be over-estimated. They are the research institutes which, in large measure, determine the rapidity with which advances may be achieved in medical care, both preventive and curative. Often the institutions primarily concerned with the application of medical knowledge, such as hospitals, diagnostic laboratories and health departments, also engage in research. Their investigations are as likely to be focused on administrative practices and organization as on medical knowledge per se.

It is needful to secure a complete list of these several institutions to know if their geographical locations assure to the population ready access to their facilities and to what extent they are capable of meeting the needs of the country.

Professional Personnel and Training Opportunities

The number, distribution and character of medical and health personnel serving a population and the nature and capacity of institutions which prepare such personnel, should be determined as accurately as possible. Until facts are at hand which indicate the number of doctors, engineers, dentists, dental hygienists, hospital administrators, nurses, nurse-aids, visitadoras, social workers, sanitarians, dietitians and other specialized workers, there will be difficulty in determining where expansion of training institutions is most needed. The extent to which such personnel is concentrated in urban areas, especially in situations where the principle disease burden of the population is carried by those living in rural communities, must also be known. Some estimate as to the quality as well as the quantity of workers in the health and medical fields is highly desirable, though obviously more difficult to determine.

Nature of Governmental Structure

Though the Ministry of Health usually carries the major obligation for health services, this may be shared by the Ministry of Social Welfare and the Ministry of Social Security, where these exist, since they frequently administer a part, if not all, of the hospitals and custodial institutions of a country. The Ministry of Education frequently has the obligation to maintain school health services and to this extent shares in the administration of the nation's health services; but its major responsibility has to do, usually, with the preparation of medical and health personnel required by those services. The Ministry of Public Works is likewise tied in closely with the health field in view of its role in the construction and often design, of hospitals, health centers, water supplies, sewage treatment plants and so forth. The organization and the functions of each part of government that carries a responsibility in the health field should be recorded.

Nature and Importance of Voluntary Agencies

These vary greatly from country to country. The Red Cross usually conducts a health program wherever organized on a national basis. In a number of countries a large part of the tuberculosis campaign

and the venereal diseases control work are conducted by voluntary organizations. Wherever this situation is to be found a careful analysis should be made of programs, qualitatively and quantitatively, so that due weight may be given to them in the total national health program.

Social Institutions, Customs and Cultural Traits

These encompass areas less easily identified and understood than the infectious diseases, for example, but they are equally important, if not more so. The health planner needs to be familiar with the current beliefs of folk-medicine and the attitudes of people toward modern scientific medicine. He must have an understanding of the habits of the people, the motivations of individuals and their goals in life. Caste and class structure must be known. Land tenure laws, social legislation and housing are additional important subjects in this field.

Economics

The economic and financial potentialities, as well as present position of a country, must be understood as a basis for realistic planning and as a means of protection against undertakings beyond the national resources. The level of productivity, the nature of the labor market, the trend toward industrialization, the national income and the tax system are additional matters requiring investigation and understanding.

Education, Agriculture and Industry

These program fields, along with health, form an aggregate of inter-relationships and inter-dependency that determine in no small measure the advances in all four areas or directions. If the level of living of a people is to be raised no one of them may be ignored. The planner in the health field must, in consequence, understand the problems of education, agriculture, and industry and, whenever possible, should seek ways and means whereby the health program will aid and reinforce the programs of the others as well as utilize related programs to aid the health programs.

Geography and Climatology

The geographic and climatologic characteristics of a country have a direct relationship to many of its health problems. This stems not only from physical factors such as altitude, latitude, soil, insolation, temperature range and rainfall but many biological factors as well. The fauna and flora are most important and determine in no small measure the health hazards of an area. Knowledge of the nature of the sanitary environment of a population is essential. These characteristics cannot be neglected if program planning is to be of a high order.

It was recognized by the evaluators that the collection of such basic data is a long and laborious task which the director of the Servicio will rarely be able to accomplish by himself. The talents of all field party members and of many members of the national health services will have to be enlisted. Certain of the basic data will tend to lose pertinence unless they are kept up to date. A continuing responsibility to do this might well reside in a committee appointed by the director of Servicio for the purpose.

FORMULATION OF A PROGRAM

From their study of the importance of basic data as a first requisite of good program planning, the evaluators turned to the problem of determining from a study of the assembled data what the outstanding problems of the country are, and which are susceptible of solution within the educational, economic and financial capacity of the nation. Following is a digest of their findings.

It is at this stage of planning that the experience and judgment of the minister and the chief of party will be of crucial importance. They and their advisors must assign priority values to the several problems calling for solution and from this point on, program formulation may proceed.

Depending upon circumstances, the program objective may be attained by a single project such as the installation of a safe

water supply, or a series of projects may be required as in the case of a program aimed at the control of tuberculosis. In the latter case, one project of the series might be an epidemiological study of tuberculosis as a means of establishing its incidence; the determining of the principle avenues of dissemination or the estimating of the role that BCG might be expected to play under a set of local circumstances. Another project might be a case-finding campaign. Still another could be the establishment of a tuberculosis hospital or sanatorium.

Though projects will differ widely in their aims and provisions, they should resemble one another in their formulation. The title should indicate in a line or two the nature of the problem and objective of the project. If previous efforts of a similar kind have been carried on, these should be listed, since together they form a background for the current project. Following this should come a complete description of the project, specifying the location, setting forth the reasons for its selection, the manner in which its development is to proceed, a clearly defined plan of administration, and assignment of responsibility among the parties concerned if more than one participates.

The goal which the project aims to achieve should be precise and limited so that the accomplishment may be objectively measured. The proposed time schedule should also be a matter of record, as well as the arrangements that have been made for the transfer of the project to the appropriate host government agency. A special section of the project form should be devoted to finances, and should show, if its duration justifies, the sources and proportion of funds from the cooperating agencies year by year.

The project agreement should be so complete and well documented that a new chief of field party or a new minister would have no difficulty in understanding the project or in discharging his responsibilities for its successful completion.

EVALUATION OF PROGRAM PLANNING

Generally speaking, project agreements were found to be well prepared. The principal shortcomings in those reviewed by the evaluators were two:

1. Terminal dates for cooperative projects were frequently omitted despite the fact that provision usually existed for an extension of the date if it were required.

2. No provision was made for the orderly transfer of responsibility from Servicio to the appropriate government agency.

Planning for Transfer

In some instances chiefs of party were reluctant to relinquish responsibility for completed projects for reasons that seemed unconvincing. For example, fear was expressed that a project when transferred to government would not be maintained at the same level of efficiency as under Servicio administration. If this fear were supported by facts showing, for example, a lack of funds or personnel to carry on the project, in the view of the evaluators it could only mean faulty planning. Prejudgments of this nature were regarded as neither persuasive nor trustworthy. The better procedure, they felt, would have been to try out the new administrative auspices. If failure ensued then the reasons for failure could be identified and appropriate corrections applied.

Another instance was that of a health center which had been operated by Servicio for a considerable period of time but was no longer looked upon by government officials as a demonstration, but as an accepted method to bring preventive services to the people. The director of Servicio declared the health center to be indispensable to him as a training center of Servicio's own personnel. In this particular country the Ministry of Health had a section in its organization charged with responsibility for the training of personnel. This could have been used to meet Servicio's requirements and by so doing strength would have been imparted to the ministry's training facilities.

A further example of inadequate planning for the final transfer of a project to the constituted health authorities of the cooperating country high-lighted some of

the difficulties occasionally encountered. In Brazil the cooperative agency is known as Servicio Especial de Saude Publica, commonly abbreviated to SESP. Originally the chief of the field party was also the director of SESP, thus conforming to the usual arrangement. However, in 1944, the administrative responsibility for SESP was transferred to a national with the title of Superintendent. He was selected by the Minister of Health. The minister had submitted a small number of names to the chief of party in order to ascertain which would be most acceptable to him. Two were declared to have equal acceptability and the minister chose one of them. Gradually the other members of the field party, American technicians who had discharged administrative responsibilities, were also replaced by Brazilian technicians as they became available. At the time of the survey, with one possible exception, North Americans were functioning in an advisory capacity only, while the entire SESP organization was national, and administered by national personnel. It was also financed in very large part by Brazilian funds.

On the surface it appeared that there was no problem of transfer since operations were in the hands of nationals. In reality there was a problem. In the Ministry of Health, SESP enjoyed a position of equality with the National Department of Health. In certain geographical areas of Brazil it was functioning very much as the National Department of Health, but with no direct responsibility to the latter. This situation in itself would not impede the transfer of completed projects to the National Department of Health.

The thing that had not been done, or could not be done, was to transfer with such projects, the privileges and immunities enjoyed by SESP but denied to the National Department of Health. By virtue of the basic agreement between the Ministry of Health and the IIAA, SESP had relative freedom to hire and fire personnel, thus assuring the recruitment of staff on the basis of competence alone and without fear of political interference. It also enjoyed exemption from many bureaucratic controls hampering administration and hindering the best utilization of the budget.

The National Department of Health recognizing its inability to equal the effectiveness of SESP because of its handicaps, had been reluctant to assume responsibility for SESP operations such as the Amazon Valley health and sanitation service. This service had been a SESP responsibility for approximately 10 years. In accordance with the original intention, it should be relinquished, yet it appeared that for the present SESP would be required to carry on. Thus SESP seemed destined to carry an ever increasing load of operational responsibilities and as a consequence, there would be diminishing opportunity to blaze new trails in the fields calling for exploitation. While such a situation was regrettable, the evaluators were of the opinion that should the SESP experience eventuate in a modification of administrative laws and regulations so that the Brazilian National Department of Health would no longer operate under the existing handicap, a great service would be rendered to Brazilian public health.

It was evident from the foregoing that while planning will usually permit an arrangement whereby projects can be transferred to the constituted national health department and thereby strengthen it, this may not invariably occur. It was felt that the lesson to be learned from Brazil was not that planning has limitations, but rather that it must be utilized from the very outset and leave nothing to chance. The evaluators held that planning in the Amazon Valley project was good as far as it went, but it never tackled the problem of transfer. For this reason the valley project was to find itself, after ten years, crystallized in form and with an uncertain future.

A Summary

Proceeding from the criteria they had set up for guidance in reviewing the planning done by the Servicios, the evaluators arrived at these conclusions:

The indigenous health organizations in Latin America have been developed and stabilized as a result of the projects they

have carried on, but this has not been an invariable result. More attention to planning might well have prevented some of the failures. At least until more comprehensive national health councils described below can be developed an organized program planning evaluation group, preferably including appropriate host government representatives, should be a feature of Servicio administration.

The rate at which programs and methods were incorporated into the permanent health structure has been fairly satisfactory, but here again incomplete planning has retarded the process. Each project agreement should include a plan for orderly turn-over to the appropriate regular agency of the host government.

NATIONAL ADVISORY HEALTH COUNCILS IN PROGRAM PLANNING

The evaluation team agreed that a survey of health program planning should not be limited to the Servicios. A study of its wider implications pointed up the following:

Health programs in Latin America are for the most part formulated and executed by the constituted health authorities of the national, state and local governments. In some countries private agencies play a role of varying importance. In almost all the countries the Red Cross conducts a health program that supplements that of the governments. Schools of nursing, health centers, milk distribution and similar undertakings characterize Red Cross activities.

In certain countries the entire campaign against tuberculosis is the responsibility of a private or voluntary agency. Notable in this regard is the Liga Ecuadoriana Anti-Tuberculosa which maintains in various parts of the country 23 dispensaries and eight hospitals with a total of 2,000 beds. Not infrequently the hospitals, or a large portion of them, are operated by a voluntary organization termed Beneficencia. These voluntary agencies are usually subsidized by government, and in addition they benefit from lotteries or special taxes authorized by government.

Because the ultimate responsibility for all health programs rests essentially with government it is clear that considerable advantage could result from joint planning.

The success of health programs whether official or voluntary in character, depends to a considerable extent upon an alert and informed public. It would appear desirable, therefore, that the public should be brought into relationship with the official planners, and its support enlisted.

A mechanism to secure the benefits of coordination and broad public support of health programs would be through the creation of a National Health Council, advisory in character. Such a council could be created by the Ministry of Health with representation from all the national agencies concerned with health, such as the Ministries of Finance, Interior, Agriculture, Labor, Welfare and Education, as well as the voluntary organizations, the universities and technical schools. In addition, membership should embrace outstanding personalities from philanthropy, business, finance, and industry. The council's membership would thus represent a cross-section of society of the nation and would embrace the planners, providers and consumers of health programs.

The members who represent government agencies should be ex officio while others might serve fixed terms, staggered so that the new members would be added gradually and thus assure continuity.

The advisory character of the council should be maintained. It should have no executive, financial or administrative responsibilities. However, because of its composition, its advice would carry great prestige and wield a powerful moral force. Health plans of government might thereby be greatly strengthened.

In countries where governments may on occasion change suddenly, a national advisory health council would have the added value of providing a link between the old and the new and giving greater continuity to health activities, especially planning.

INTERNATIONAL HEALTH AGENCIES IN PROGRAM PLANNING

A number of agencies, national, international and voluntary in character engage in cooperative health programs with many of the governments of the American Republics. In addition to the Institute, important ones are the World Health Organization and its regional office, the Pan American Sanitary Bureau (PASB), the United Nations International Children's Emergency Fund (UNICEF), the Kellogg Foundation and the Rockefeller Foundation.

The interests of these several agencies are not so very different, one from the other, and their cooperative programs in the American Republics are in consequence closely related. In Chile it was observed that three of these agencies, the Kellogg Foundation, the Rockefeller Foundation and the Institute of Inter-American Affairs (IIAA) had cooperated with government in the development of nursing education and medical education. The latter two agencies worked closely together with government in establishing the National School of Public Health in Santiago. Aid was of several types: preparation of the teaching staff through fellowship grants; construction of the school's physical plant; aid in supplying its equipment; and financial support of operations, on a tapering scale, over a period of years.

The National School of Nursing of the Central University in Quito, Ecuador, has furnished another excellent example of joint action. Here the PASB, the IIAA and the Rockefeller Foundation joined forces in aiding the Ministry of Health in the development of this institution by loaning two American nurses to help with organization and guidance in the early years. Other aid included the reconstruction of a building to house the school, the purchase of equipment, some assistance in the initial cost of operation, and provision of a consultation service.

In Bolivia, UNICEF was found to be assisting in projects for the control of certain rural endemic diseases in which the Rockefeller Foundation was likewise cooperating.

In almost every Latin American country examples could be cited of participation by more than one of these agencies in the national health program. The fact that so little real overlap and duplication of program activities was observed is a tribute to those responsible locally. However, it must be recognized that there is a degree of competition among the agencies to secure cooperative projects and funds to finance them, with the consequent and ever present danger of adverse affect upon the national health budget. In one Central American country it actually happened that funds which had been appropriated in the national health budget for the maintenance of its hospitals were utilized instead to match funds being offered by an outside agency for its program development. A similar situation was observed in a South American country but, in general, such untoward effects were relatively rare.

It would be a part of good planning for these cooperating health agencies and the several national health services to adopt some device for their protection against possible adverse effects from uncoordinated program developments. More important would be the positive benefit that could accrue from the application of the joint resources in technical skills and funds toward a common objective. To this end it is suggested that clearing house conferences be established at both the international and national levels. At these conferences an opportunity would be provided each agency to describe its program interests and its plans for project development. Opportunities, if any, for joint action would become apparent as discussion proceeded.

A beginning at the international level had already been made in Washington, it was pointed out, under the chairmanship of the director of WHO-PASB. Monthly meetings were being held with representatives from the chairman's organization, the IIAA, the Division of International Health of the Federal Public Health Service, and other agencies. These, it was observed, had already proven useful but their full potentialities had yet to be attained.

A similar arrangement seemed desirable in each American Republic where more than one foreign agency is cooperating. Since international health agencies of whatever nature enter into bilateral agreements with the various governments in developing programs, the leadership in establishing clearing house conferences at the national level should be taken by the health authorities of each country. The frequency of such meetings had best be decided in the light of experience.

It is recommended that clearing house conferences of representatives of WHO-PASB, UNICEF, IIAA and other official and non-official agencies operating in Latin America, be established at the international and national levels for the purpose of enhancing the benefits from cooperative efforts through joint planning and, where feasible, joint action.

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SANITATION

The original broad purposes and specific objectives of the bilateral health programs of the Institute of Inter-American Affairs have been described earlier in this report. With these in mind, it was possible for the evaluation team to divide the work of the Institute into the World War II and the postwar periods.

THE TWO PHASES

The first efforts of the war period were to provide an environment in which workers in the republics to the south could effectively produce desired strategic materials. Rubber, one of these, must be obtained from an extremely unhealthy area. At times only a dribble of materials was available because of illness among the workers. The most important environmental health problems in that period were those of malaria and gastro-intestinal disease control.

These early programs of sanitation did much in the way of mosquito control. At the time of the survey, early in 1952, the most of the permanent works installed under the original program were being maintained by the host governments. These included construction under small water supply and privy building programs which were developed in the areas where strategic materials were being obtained and along the Pan American Highway.

In certain countries it had been found expedient to use the funds and energies of the Servicio to construct rather large sewer systems. For example, a large section of Santiago, Chile was provided with sewers, and the same was true of Quito, Ecuador. Consequently, due to budget limitations in these particular countries, little in environmental sanitation beyond these projects could be carried out during the initial stages of the program. There were a number of miscellaneous projects developed during these early days that had some bearing upon an improved environment. Such things as laundries, slaughterhouses, public markets, and lodging houses were built in various countries as needs became known.

Following the war, the second phase of the program was emphasized by a shift from the needs dictated by war to providing technical assistance and financial support for continuous development of better health and sanitation. The transition was gradual and not at all uniform between the several countries. In general, programs came to have broader objectives and the evaluators found a diversity of projects being undertaken. Planning, it was reported, had been hampered by the uncertainty of the life span of the program.

FUNDAMENTALS

In the post-war period, it was recognized that in order to carry on a public health and sanitation program, it was necessary to have certain fundamental bases upon which to build. A safe water supply and an adequate sewerage system were considered essential, and the primary emphasis in sanitation was placed upon these two factors.

During the period under review the total expenditures of the Servicios (1942-1951) were $30,403,104 for 661 sanitation projects, approximately 30 percent of total funds expended, with about 114 active projects and 547 completed projects reported. The number of projects listed, however, meant little because of the lack of uniformity of the content of projects. In some countries, for example Chile, a single project included work reported as several separate projects in other countries. Third party contributions for sanitation were estimated at $5,937,546.00, approximately 20 percent of the expenditures in this field. The estimates did not include funds used for training sanitation personnel. Sanitation in Latin America has been materially assisted by such training programs.

In the light of the health needs of Latin America, and the comparatively high ratio of benefit to cost of sanitation programs, it appears that budget-wise the proportion of funds expended for these programs should be greater than the estimated 30

percent of the total expended. However, probably this can be prejudged only by careful program planning.

Inter-Agency Cooperation

The Servicio program in Chile was outstanding in that it was assisting the national health service in technical and financial phases of its program rather than developing a competing organization. This program was not entirely dependent upon the financial resources of the Servicio nor upon its technical guidance. The development of the provincial health department in Santiago had been made possible by the joint efforts of the Servicio and the National Health Service. This health department had made a great deal of progress in sanitation. There were six sanitary engineers on the staff carrying on a comprehensive program in sanitation. Santiago had recently adopted a food handling ordinance of the grading type and the health department was making it work. As a unique achievement in Latin America, it was rated as deserving the highest praise. It also appeared that the sanitation program was so well integrated in the National Health Service that it would continue with or without Servicio assistance. Without Servicio assistance the program, it was thought, would slow down to some extent.

Brazil was carrying on a comprehensive sanitation program in limited areas. This was being done almost entirely by national workers within the framework of the Servicio. There was nothing comparable to this work in the National Health Service. While nationals were considered technically able to carry on this program, and the Brazilian government was furnishing a large share of the money to the Servicio, it was stated by a prominent professional Brazilian worker that if the United States should withdraw from the program it would be abandoned. This opinion, however, was not shared by others interviewed.

There are agencies other than the health agencies that have responsibilities that bear on public health. Many Latin American countries have ministries of public works that are responsible for the construction of water supplies. Frequently these ministries are unwilling to cooperate with the health authorities. However, they are nearly always willing to cooperate with the Servicio, and there exists a potential for much good by the Servicio if it uses its influence to draw these ministries together into a common cause.

A great opportunity exists for the Servicio to promote and lend prestige to sanitation in Latin America by drawing the various national health services into sanitation activities on a cooperative basis.

Careful analysis of the Servicio's program should be made to see that proper examples are set. In Ecuador, where the Servicio had operated continuously for the past ten years, the director general of health saw no reason for having sanitary engineers on his staff. The conclusion was obvious that the Servicio had not sold or demonstrated the value of sanitary engineering in an over-all public health program. It is recommended that the Servicio direct its energies toward the establishment of divisions of sanitation in each of the Latin American countries where they do not already exist and in all countries carry on the majority of their activities in the sanitation and engineering fields through this division.

The number of trained personnel available through the Servicio was found to be limited with the engineers spending a considerable amount of their time in the details of design and construction of projects. In order that engineers may be used to maximum advantage, their efforts should be directed more in the planning and consultation fields. Design and construction could well be turned over to the host governments, thus freeing Servicio personnel to advise them and thereby cover considerably more ground. It seems extremely wasteful to use the ability of Servicio engineers only on small or moderate size water supply and sewerage systems when by more judicious use of their time they could influence not only the small and moderate size water and sewerage projects but also the larger ones.

Consultation and Subprofessional Training Services

There are several other potential fields of activity related to sanitation and sani-

tary engineering in which the Servicio may from time to time be asked to give specialized consultation service. These fields include city planning, architecture, garbage disposal (including incinerator design), and stream pollution. As these are specialized fields which are probably beyond the competence and available time of the Servicio staff, use should be made of short-term consultants obtained from the United States. The possibility of consultation and review of architectural plans via the post should not be overlooked.

In many of the Latin American countries visited it was found that there were quite a few subprofessional workers--generally called sanitary inspectors or sanitary police--who had limited duties in some phase of sanitation. The Servicio had in a few instances given training to these people, and in Ecuador this training was found quite valuable. It appeared that thorough study should be made to see how the Servicio might extend its influence through this group, as it was found to be quite large and well-established in the organizational pattern of government.

Professional Integrity

Several instances were observed of field party engineers performing duties that in their opinion were professionally unsound. These cases were fostered by political expediency or by misconceived ideas of local needs. For example, in one case an engineer was directed to design a surface water treatment plant when he knew that ground water was available and was a preferable source. None the less, after presenting his case he went ahead and designed the surface water supply. In another instance the Servicio was developing plans for small municipal incinerators even though the field party engineers knew from their experience in the United States, and their observations in Latin America, that such incinerators were impracticable and inoperable.

WATER SUPPLIES

Water supply development by the Servicio, it was observed, was usually carried on as a complete program--the planning, designing, and construction all being carried out by Servicio forces. The Servicio had built water supplies in every country except Colombia. Construction by private contractors had been tried but generally found unsatisfactory because contractors were not accustomed to doing this type of work and were not always available in the more or less isolated locations where the work was being done. Force accounts methods had usually proven less expensive and more practical than contracting. However, in Mexico all work was being done by contract and Brazil was gradually developing contractors competent to do the work required.

The Servicio Method: Advantages and Disadvantages

Two advantages especially were apparent in the Servicio method of operation in building water supplies. The first lay in the development of experts who could put their whole time into this activity; the second in the fact of minimal "red tape" in the financing of projects and a minimum of friction as between planners, designers and builders. The advantages here were the same as those observed in projects other than water supply. Engineers had spent considerable effort in the building of hospitals, health centers, and other buildings used by public health agencies. Construction of these works was largely done by force account as there were few contractors available. The cost of this construction compared with United States' standards, was very reasonable and was made possible by low cost labor and the use of local materials. The cost of imported materials and equipment had been understandably high but had to be used to varying degrees because they were not available locally. Construction was generally efficiently and well done, and together with honest administration had a decided influence in keeping the Servicio in the construction field.

There were faults, however, with this type of organization. It was apparent that local initiative in the technical fields might tend to be stifled, and there was noticed a decided tendency to by-pass existing local agencies that had some

responsibility in the construction or operation of water supplies. Also there was a tendency for the Servicio to replace existing government agencies. In Mexico, for example, the Servicio had built nine water supplies in one state without ever once consulting with the State health department. In Colombia, the Government had abolished the Division of Sanitary Engineering in the National Health Service and turned these activities over to the Servicio. In Ecuador, the Department of Public Works, which had been responsible for building public water supplies, had turned this activity over to the Servicio.

The value in national organizations doing things for themselves should not be overlooked. In the long run the development of administration and operational units is as important as that of developing competence in the individual, or supplying immediate desires of a community. Eventually, the Servicio's program may strengthen the indigenous health services by providing good demonstrations, but as the programs were observed in operation, they were, in some instances, illogically competitive.

One of the most highly developed and efficient water works construction programs was observed in Honduras where the work was so organized that the engineer who designed the project was moved to the field to supervise its construction. Here there was good cost accounting, which appeals highly to the nationals, good planning on a country-wide basis, and first-class work using a maximum of local materials. On the other hand, a few instances were found where the Servicio began construction by hauling a supply of materials to the construction site without anything more than a rough sketch of what was to be built. Grades and details were expected to be developed in the field. Projects so built had a very amateurish appearance and oftentimes did not serve the purpose for which they were conceived.

Cost and Demand

From the few figures found readily available in the field and later in Washington, it appeared that water supply construction costs averaged about sixteen dollars per capita with a range of from five to forty-three dollars. These were not high prices, but nevertheless represented a considerable investment when it was realized that in Latin America the average per capita annual income, as given by State Department figures, was about $131.

With the great need for pure water supplies, it became obvious that the Servicio could not serve all who would like to have a modern water system. Consequently the Servicio's efforts had tended to supply the smaller cities and towns. Construction had been generally kept quite simple. Ground water was the source of supply in a majority of cases and the supply usually came to the city by gravity. In some instances local desires indicated a demand for the use of surface water because it would give the community an imposing structure full of more or less intricate operating mechanisms. However, in other instances the people were objecting to the use of chemicals necessary to treat surface water.

The use of gravity pressured ground water systems had been found advantageous because of their relative freedom from high operating costs and complicated mechanisms. Distribution systems were generally modest compared to the United States standards, but had been found suitable for local conditions. Since there was not the need for the fire protection necessary in the United States, and since most systems were unmetered, a smaller distribution system was favored because it would cut down on water wastage occasioned by faucets being left open.

Distribution and Contributions

The evaluators found two schools of thought in Latin America with regard to the actual distribution of water to the people. One school held that distribution should be through public fountains as this was the system widely in use. The other school held it imperative that a large number of the people be served with individual house connections. The argument for the individual house connection was that it made possible the taxing of the

water user for the necessary water supply operation expense. It appeared that both had their place. Servicio projects had been of both types. The more primitive and poorer areas could be served with public fountains while in the wealthier areas house connections would be feasible.

Contributions by people directly benefited by water systems are believed essential to their full appreciation of, and responsiblity for, a community water system. The Servicios had recognized this, and in recent years nearly all supplies built by them had received local or third-party contributions. The amounts varied from small individual contributions of labor to contributions covering the total cost of the system. However, in a considerable number of instances, contributions promised by third parties had not materialized, and the Servicio had been forced to use more funds than was originally alloted to complete a project. In one country, failure of third-party contributions had been reduced by the requirement that such contributions must be in the hands of the Servicio before any construction would be started. In a few instances contributions of labor had been successful, but it was observed that the organizational problem of using gratuitous labor generally precluded its effective employment. Satisfactory use of gratuitous labor appeared to be limited to small towns of not over 3000 population, where there was a strong local leader, such as a priest, who could command local support and supply initiative. There also must be a well recognized and pressing need for the water supply and no other way for the citizens to obtain it. Contributions of funds had been found much to be preferred.

Public Attitudes

The acceptance of water supply projects by the local people was enthusiastic. However, in most cases it appeared that acceptance was based on the desire for water rather than upon the public health significance of having a safe water supply. In one instance it was the feeling of the local inhabitants that the pure water was good for the children but was unnecessary for the older people because of the immunity that they had developed to waterborne diseases. In one community in Mexico, the local druggist reported that the installation of a safe water supply had materially reduced the amount of gastrointestinal diseases. His observation of the matter was based on the reduction in his sales of medicines widely used to control these diseases.

The inauguration of a completed Servicio water supply in Latin America should be seen to be really appreciated in its impact upon the citizens of the community benefited. It is a holiday, a festival that may last for as long as two weeks. It is solemn with its religious dedication and stirring speeches by political and civic leaders. It is spectacular with its parade and marching bands, its sports events, its bullfights, and its dances. Banquets and more speeches, pageants, the presentation of testimonials and a general feeling of good will are all included in the celebration. There is not room for all in the gathering places and outside the buildings crowd the children and the lowly, eager for this vicarious participation. For the time, at least, the people feel that the project is the most important thing in their lives.

Administration

Unlike some projects undertaken by the Servicio, the water supply projects were generally turned over immediately to the local people or to a government agency responsible for their operation. It was the observation that, in general, the operation and maintenance of Servicio-built water systems was not adequate because of the lack of competent operators and adequate financing. There was noted a definite trend within the Servicio toward the training of water supply operators. This was to fill a need which, in the opinion of the evaluators, cannot be overemphasized. There is a dearth of trained or experienced people available to take over the operation of a water system in all Latin American countries.

In some countries, there was observed a tendency on the part of the Servicio to establish local water supply boards composed of influential people who would act as a policy making and administrative

group and who would be responsible for collecting the necessary funds to provide maintenance and operation. This procedure had worked out well in Mexico, where all water users were paying their share for water service, and in some instances including an amount toward retirement of the capital investment. In Honduras, results were quite effective where the Servicio had not only set up the administrative board but had trained the persons who would become the operators when the project should be completed and turned over to the local authorities.

Operation and Maintenance

That there was much to be done in securing better operation and maintenance of many of the Servicio projects was clear. It seemed equally obvious that unless maintenance should be improved, the capital investment in some would ultimately be lost. In a number of instances the supplies which Servicio built to replace systems which had been put into operation thirty to fifty years previously had been allowed to deteriorate until there was very little left. The evaluators agreed that operation and maintenance responsibility could not be left solely to local interests and that some official government agency (preferably the Division of Sanitary Engineering) should be stimulated to provide operating assistance to the local people. This agency could check not only on the safety of the supply but also assist the local boards, administrators and operators in all phases of operation including financing and business administration matters.

Problems of Construction

As many of these supplies had been built in areas where it was impossible to purchase many of the materials necessary for construction, it had been necessary for the Servicio to establish warehouse projects to stock such necessary equipment and materials as pumps, pipe, fittings and cement. Establishment of such a warehouse eliminated the profit usually taken by the middleman and materially reduced the cost of projects. In several countries where it is difficult to obtain materials, additional expense in construction had been incurred by keeping people on the payroll who had nothing to do while waiting for materials. One country had obviated this difficulty by consigning equipment to a responsible official of the town where the water supply was to be built and deferring the sending of a construction force until all materials should be delivered.

Considerable credit is due the Servicios for the efficient method in which they construct their projects. Much improvisation was observed and this had gone far in overcoming the handicaps of undertaking major construction in remote areas not served by ground transportation and where few, if any, skilled artisans were to be found. Many projects were built with a minimum of construction equipment. In one Honduras town where all materials had to move by air, the only equipment provided was hand tools, and to reduce the expense of moving in large quantities of cement, 90 percent of local lime was used with only 10 percent imported cement. Although light weight cement-asbestos pipe was used for the distribution system, the logistics of moving the quantities used was a real undertaking.

Faults apparent in water supply construction programs could generally be attributed to failure to evaluate the economic status of the community to be served. Quite a number of examples were observed of expensive, ornate architectural treatment of buildings and the incorporation into projects of unnecessary "gadgets" such as totalizing meters and various gages.

The most common fault was seen to stem from a desire to design into projects the utmost safeguards to the public health. For example, chlorinators would be placed on a great number of ground water supplies. The quality of these waters was generally satisfactory, but chlorinators had been installed as an additional precaution. This precaution was apparently not fully appreciated by the recipient people, and perhaps half of the chlorinators which had been furnished were not in operation. The lack of operating funds and the complexity of the chlorination devices, coupled with the fatalistic attitude of the people, were identified as factors influenc-

ing the removal, the destruction or the non-use of chlorinating equipment.

In Panama, where the Servicio program was being reinstated, a sanitary survey of all communities was being made a preliminary to decision as to where water supplies should be installed. This, the Evaluation Team agreed, was a logical primary step in undertaking a water supply program. This type of information was not available in most Latin American countries, and water supplies were being built with little regard for the priority of need between the various cities and without too much concern about the demonstration value of any particular project. Political considerations, rather than objective evaluations, frequently seemed to dictate where supplies would be built. The availability of third-party contributions was regarded as perhaps the greatest determining factor in deciding where supplies would be constructed. Inasmuch as the Servicio cannot build all the supplies necessary, it would seem better to concentrate its efforts on good demonstrations and where the health problems are most pressing.

Individual Supply

A relatively small amount of work was observed in the development of safe individual water supply units. Funds totaling $62,773.45 had been expended for this purpose, of which $3,265.77 was in third-party contributions. Those individual supplies consisting of sanitary hand-pumped wells, which were observed along the Pan American Highway in El Salvador, were extensively used and well maintained. The building of individual water supplies is an important phase of sanitation which, the evaluators felt, had not received the emphasis deserved. This type of work fits in well with a general sanitation program; it is not very expensive and can be carried out by sub-professional personnel such as sanitarians. It would seem advisable to have at least one demonstruation project of this nature in each country.

SEWAGE DISPOSAL

As of the period of the survey, latest available figures showed that a total of 101 community sewage projects had been undertaken at a cost of $5,885,797.09. Eighty-six of these projects had been completed and the third-party contribution to the cost had amounted to $325,180.34 or 6 percent of the total. Only a few of these projects included sewage treatment.

The general impression was gained during the survey that communities wanted sewerage systems because some neighboring community or the capital city had them. However, most Latin American communities were greatly in need of improved and expanded excreta disposal systems and the cost of sewers had been quite modest. The few figures available showed costs in the neighborhood of $5.00 per capita, a cost explained by the fact that sewers require relatively few materials and that local hand labor was cheap.

It was a universal practice to use concrete sewer tile manufactured at the project site. The Servicio had imported a number of pipe-making machines which continued in use. For example, in Chile, pipe making facilities were taken over by a government agency while these facilities were not being used by the Servicio. No evidence of failure of these concrete pipes was found, even though they are subject to rapid deterioration if septic sewage has to be handled. The success in using these materials was attributed to the skillful designing of the Servicio's engineers.

STREAM POLLUTION CONTROL

The collection and distribution of community sewage into the nearest water courses creates new health hazards for downstream water users. The danger of this practice, which was found common to most Servicio sewerage projects, was quite evident because of the wide-spread use of the streams for bathing, laundry, and drinking purposes. On occasion, people were observed washing clothes immediately below a sewer outfall that had been installed by the Servicio.

The economic condition in most of the countries would seem to preclude the installation of classical sewage treatment. However, proposals for several possible

solutions to the problem which might work under proper circumstances came out of the discussions of the evaluators. They were these:

1. Rather than build a sewer, individual septic tanks could be built which would discharge into the ground and could be financed by the persons needing them. The rest of the community could be supplied with pit privies. These conditions would be satisfactory in the small and medium sized communities as well as suburban areas around the larger cities.

2. The lagooning of sewage for a thirty-day period before discharging to streams would be cheap and has been found to be quite successful in the western part of the United States where the lagoons are properly designed.

3. Abandonment of streams for any use other than waste disposal, and the construction of public laundries, bathhouses, and water supplies, so that the people would not have to use the stream for these purposes.

Industrial Wastes

Little evidence was found that industrial wastes were a problem of major significance. Generally, industrial wastes were found to be discharged through separate outlets with the dilution water available generally caring for these wastes satisfactorily. In El Salvador the industrial waste problem connected with the coffee industry had been investigated by engineers of the Institute. However, no definite conclusions had been reached nor had remedial measures been taken. In Chile, the Servicio had built three or four modern sewage treatment plants and had joined with the Ministry of Public Works in supervising the operation of these and some other plants which were also the responsibility of the Ministry for operations. These plants were well operated and the personnel assigned to the operation project had been quite successful in obtaining additional sewer connections to the system.

In contrast to this situation, a sewage disposal plant built by the Servicio at Santa Tecla, El Salvador, was being allowed to function improperly and to deteriorate to a point where it needed replacement. Since completion of this project, there had been an operator in constant attendance but was so untrained that he had no idea of what the function of an operator should be. The condition of this plant clearly indicated that a follow-up must be made by some competent person from a responsible agency after the construction of any future sewage treatment project.

SANITARY PRIVY PROJECTS

The construction of sanitary privies was made an important sanitation project of the Servicio in its inception. In every country this activity was carried on, and a total of 57 projects costing $415,000 were undertaken. Fifteen percent of the cost was supported by third-party contributions. The survey revealed only seven of these projects as active. In Brazil about 20,000 privies had been built. Chile and Colombia had built 3,000 each; Venezuela 9,000 and Nicaragua 2,500. The fewest pit privies were built in Ecuador, El Salvador, and Guatemala, a total of four each.

Construction of sanitary privies is fundamental to a sanitation program and ties in closely with the building of individual safe water supplies. This is the type of program which can be carried on by the sub-professional worker and is effective in controlling intestinal parasites. It is believed that more emphasis should be paid to this activity.

Privy costs were found to be relatively high in comparison to the United States' standards, the average of a concrete slab and riser being about $6.00 per unit. A completed privy would cost the individual from $11.00 to $16.00, an excessive amount in some regions. In many small villages the cost of the privy would be close to 50 percent of the value of the home it serves. Efforts to reduce costs by mass production and the development of new materials, such as precast, wood-reinforced concrete superstructures, were observed in Chile.

VECTOR CONTROL

Traditionally malaria has been a leading cause of death and economic loss in many

parts of Latin America and has received a great deal of attention by indigenous health services. It was natural, therefore, that the Servicio should join the host countries in their anti-malaria campaigns in order to carry out a more widespread and intensive program. In the beginning, anti-malarial measures were of the so-called permanent type, such as ditching, draining, filling and diking and larvaciding with oil and toxic agents.

Vector control was greatly benefited by the development of new insecticides that have a residual killing power. The use of these insecticides has, in many instances, reduced the need for permanent type control and permits carrying out anti-malaria programs with less highly skilled technicians. Spraying, however, should not replace other means of control. There is a place for each.

In Latin America, the survey indicated, DDT in kerosene is more acceptable to the people than DDT water emulsions because the latter leaves the premises covered with an unsightly powdery film. Malaria control measures appeared to be understood and appreciated by the people but they were inclined to look to the Servicio or the government to provide such services free.

In Mexico, the Servicio was providing spray equipment free and furnishing DDT at cost. In Colombia, the Servicio's spraying program had stimulated the establishment of several commercial spraying firms that were providing services on contract to communities that cared to use them. The Servicio was aiding such communities by checking the toxicity and coverage of sprays used by independent contractors.

In El Salvador, Brazil, and Venezuela, vector control activities begun by the Servicio had been turned over to the national health services and were being successfully carried on by them. For example, the Venezuelan program began in 1943, with a total budget for malaria control of $1,556,000 for an 18-month period. In 1945, the program was turned over entirely to the host government. The 1949 budget for malaria control in Venezuela was $3,016,643.84 and all reports indicated that the national program was being carried out very effectively. The obvious conclusion was that the Servicio had stimulated a good program which was continuing without outside aid.

Outstanding Achievement in Ecuador

In Ecuador, responsibility for malaria control was being shared by the Servicio and the National Health Service, each agency taking a section of the country for its exclusive control. There was found little if any coordinated planning or execution of specific projects. The Servicio was responsible for malaria control measures in the four northwest provinces.

Vector control by the Servicio in Ecuador was found to have been eminently successful. In the highlands, near Quito, Anopheles mosquitoes had migrated up the deep narrow valleys from the sea, bringing malaria with them. In the affected highlands communities, the enlarged spleen rate in children ran as high as 80 percent. Populations were dwindling and some of the country's most valuable agricultural land was not being used. By drainage and other anti-larval measures, mosquito-breeding areas in the highland communities were destroyed. Mosquitoes and malaria disappeared and land values soared as agriculture was again extensively pursued. Anti-larval measures in the highlands cleared 1400 square kilometers of Anopheles mosquitoes. An incidental by-product of the drainage work done for mosquito control was the improvement of the land for agriculture. The drainage had made irrigation possible.

Also in Ecuador, construction of the Quito-San Lorenzo branch of the national railway system had been held up due to malaria among the workers (45 percent of workers blood positive). This work was resumed after anti-malaria measures of the Servicio took effect. The completion of this railroad was of considerable economic interest as it would give Quito a second railroad connection to the sea. Through DDT spraying, an area of 4,000 square kilometers was controlled, benefiting a population of approximately 55,000 people.

At Esmeraldas, one of the country's most important banana centers, visited by many boats, malaria was a major health problem. After the Servicio's efforts, the city showed an index of one percent and could be considered as cleared.

INDUSTRIAL HYGIENE

A division of industrial hygiene at the federal level may be found in all of the Latin American countries which are partially industrialized. These units are found either within the Ministry of Labor or the Ministry of Health and Social Welfare; however, without exception, these divisions have functioned primarily in the field of labor-law enforcement and have never developed technical, fact-finding services with which to aid industry in the study of its health problems or in their solution. There has been a conspicuous absence of preventive programs, and trained industrial hygiene personnel are lacking. The magnitude of the gainful population by major industry groups in selected countries, according to J. J. Bloomfield, is shown in Table No. 1. Mining, a particularly hazardous occupation, is receiving merited attention.

Although the largest group of workers in Latin America are employed in agriculture, this does not mean that they are to be excluded from an industrial hygiene program. It is now realized that serious problems occur with the use of quantities of toxic economic poisons, the properties of which are little known. Much of the agriculture in Latin America may be considered "industry-in-the-field" since sugar, cotton, and coffee plantations employ thousands of workers under single management, thus making it possible to attach health problems of the workers quite effectively.

Results

The survey showed the Institute's programs to have been successful in developing modern industrial hygiene programs in Bolivia, Brazil, Chile, Colombia and Peru. United States personnel on duty with the Institute program of industrial hygiene numbered one person in 1945 through 1947, two in 1948, three in 1949, four in 1950 and eight in 1951.

In Peru and Bolivia, a total of $294,105.93 had been spent on industrial hygiene at the time of the survey. Laboratories and libraries had been established, personnel trained at home and abroad, and surveys made to define the problems. Corrections of many health hazards had already been made.

In Peru, the Department of Industrial Hygiene had a staff of nearly 50 workers, of whom more than 20 were professionals. During the two and one-half years just preceding, approximately 70 industries had been studied and 7,200 physical examinations made. The medical examinations were being analyzed on IBM tabulation and sorting machines. These analyses were to establish the incidence of silicosis and other occupational diseases as the basis for steps in the control of occupational diseases.

Another important phase of the program to which attention was given in the survey was the training of carefully selected Latin American industrial hygiene workers in the United States and in-service training of workers in Latin America. The industrial hygiene program of the Servicio was shown to have been well received by industry and other government agencies as well as by the workers. However, some criticism had been heard that the program tended to act too independently, and to obtain more than its justifiable share of public health funds.

Personnel Ratios and Service Placement

The establishment of industrial hygiene programs had been accomplished with the concurrence of the appropriate ministries. The program was usually headed by a North American engineer with broad experience in the field. Sometimes he would act as a consultant to a national chief of industrial hygiene activities. National physicians, engineers, chemists, and other technicians were employed with the ratio of national professional staff to the United States professionals about fourteen to one.

Organizationally, it was found preferable to establish the industrial hygiene program in the public health agency and

TABLE 1.--Gainfully employed population according to country and type of industry

Industry group	Bolivia 1941	Brazil 1940	Chile 1940	Colombia 1938	Mexico 1940	Peru[1] 1940	Total
Total Gainful Population...	1,110,000	14,020,123	1,768,721	4,487,585	6,131,908	2,475,339	29,993,676
Agriculture.....	9,000,000	9,453,512	619,563	3,320,480	4,396,703	1,546,189	20,235,447
Mining.....	70,000	390,560	96,090	72,069	106,706	44,694	780,119
Manufacturing.....	10,300	1,400,056	297,979	527,246	639,687	380,281	3,253,549
Commerce and Trade.....	--	800,920	162,308	153,725	552,457	104,704	1,774,114
Transportation and Communication.....	--	473,676	74,518	58,570	149,469	51,079	807,312
All Other.....	119,700	1,501,399	518,263	355,495	286,886	348,392	3,130,135

[1] From Public Health Service Bulletin No. 301, J.J. Bloomfield, 1948. "Industrial Hygiene Problems in Bolivia, Peru and Chile".

to have its activities closely coordinated with other phases of environmental sanitation. For various reasons this pattern could not be fully developed. Only the program in Chile was thus established. In Peru and Colombia the programs were placed under the administrative jurisdiction of the respective Servicios, while in Peru, Brazil, and Bolivia they were under the control of the Ministry of Labor.

A Conclusion

An industrial hygiene program strengthens the indigenous health service of the host country and probably is the best integrated phase of environmental sanitation. It is quite different from other Servicio programs in that it is nearly always established in the host government as a country-wide operating division that, for all intents, will continue indefinitely. It is usually referred to as either the Division or the Department of Industrial Hygiene of the host government, rather than of the Servicio.

The unit when established attempts to have its own buildings and laboratories and has had considerable success in obtaining categorical operating funds.

Operations are carried forward on a plan carefully developed after study and analysis.

The foregoing features of the program are worthy of careful study and certain organizational patterns might well be adopted by other environmental sanitation programs.

MISCELLANEOUS PROJECTS

A number of construction projects of miscellaneous nature were found in several countries. Public laundries built by the Servicio were rather frequent. These projects were not expensive, and had a salutary effect upon the community. Often they would become the center of small commercial areas. Public bath houses were also built and, like the public laundries, were being widely used and well maintained. These two types of facilities had been enthusiastically accepted. The people could easily comprehend their value, not so much from the public health standpoint, but as a convenience and a way to better living. A number of public markets had also been built with dramatic improvement in sanitation.

In El Salvador the Servicio was engaged in a rather extensive slaughter house building program. In the capital city this seemed to be a fairly successful project, and good sanitary control was being maintained even though refrigeration was not available. In the small towns, however, maintenance and sanitation of the abattoirs left much to be desired. It was not known how much disease was being transmitted through the handling of meats, but it was thought limited in comparison with the other health hazards of the environment.

In a few instances the Servicio had assisted the local people with their garbage disposal problems. Costa Rica was studying the possibility of the composting of garbage which would have the advantage of furnishing much needed fertilizer. In Brazil, the Servicio was preparing standard plans for small incinerators; Chile had been assisted in its refuse disposal studies.

A number of standard American textbooks and pamphlets relating to sanitation and public health had been translated by the Servicio into Spanish and Portuguese. This was to meet a much needed deficiency in professional fields.

In some cases the Servicio had been instrumental in training sub-professional public health workers in the field of sanitation. Some sanitarians had been trained to do insect control, rodent control, food control, privy sanitation and small water supply sanitation. It was explained that more of this work would be done were there a demand for it, but it was considered unlikely that the demand would develop until there should be a more widespread national realization of what this type of worker has to offer to better health. Until then there would be few jobs for these people that would pay a living wage.

A tabulation of the miscellaneous projects by the Servicios is shown in Table No. 2.

TABLE 2.--Type, number and cost of miscellaneous sanitation projects.

Item	No. projects		Cost	
	Total	Active	Total	Third party
Slaughterhouses	15	1	$202,064.67	$119,800.00
Laundries and Bathhouses	14	4	72,115.22	11,810.09
Public Markets	9	1	466,777.27	209,875.14
Garbage Disposal	3	0	8,530.42	0
Camp Sanitation	3	0	16,859.25	0
General Sanitation	10	1	135,993.10	21,886.78
Low Cost Housing	5	0	20,353.53	0
Miscellaneous	4	0	193,691.54	22,665.14

The large amount of third-party contributions for markets and slaughterhouses is to be explained by the fact that these facilities are revenue-producers.

SUMMARY AND CONCLUSIONS

There is a great and widespread need for a sanitation program in Latin America to reduce the incidences of malaria, enteric infections and intestinal parasites.

Better control of the environment will lower the appalling infant mortality rates, make labor more productive and prevent the enormous economic loss due to illness.

The value of sanitation is not generally understood in Latin America and even among the health workers themselves there is lack of knowledge as to how to use sanitation techniques.

Estimates for 1952 indicated that the cooperative health programs of the various Servicios have used approximately 30 percent of their total budgets in the field of sanitation. These projects have been quite successful and are acceptable to the recipient peoples. The program has given impetus to the public health movement in Latin America and has increased public health benefits.

Factors contributing to the success of the Servicios include a relative freedom from governmental "red tape", a generally high degree of technical competence, a generous pocketbook and solid political backing.

The major advantage of the Servicios is that they furnish a framework within which nationals can carry on sanitation programs while receiving full-time salaries.

From an administrative, technical and financial standpoint, the Servicios generally appear favorable in comparison with the indigenous agencies.

Generally, the Servicio programs have not strengthened existing health agencies because of the competing position taken by the Servicios. Their relationships to the indigenous health services could be similar to the Federal-State relations in public health that have developed and been found effective in the United States.

The idea of consultations and cooperative demonstrations and of aid and assistance to indigenous health services, has not been widely adopted by the Servicios. However, in Chile and Costa Rica where programs have been established along these lines, they appear to be eminently successful.

Cooperation with the indigenous health services not only on the ministerial level, but on the working level as well, will strengthen national organizations and insure long-range benefits of the bilateral public health program.

A real opportunity exists to establish or strengthen divisions or departments of sanitation. At least five Latin American countries have no such organization and many others are weak.

Recognizing the different cultural, political and economic patterns of Latin American countries, the importance of timing and the varying objectives of the program, it is impossible to establish definite criteria for evaluating the existing program and to make detailed recommendations for its improvement. There are, however, certain underlying guiding principles that can be recommended and should be adopted with the understanding that all are subject to modification and proper timing.

It is recommended that:

1. The Servicio encourage the development of sanitation activities on as broad a base as possible, within the framework of the indigenous health services;

2. The Servicio give its major efforts to planning, advisory, and directional services and its minor efforts to detailed design, construction, and operational services;

3. The Servicio make greater use of its prestige, influence, and knowledge to bring harmony between the various groups of nationals having an interest in sanitation;

4. The Servicio, recognizing that American public health practices cannot be transposed without modification, encourage research in the methods and standards of sanitation that will best fit Latin American cultural and economic patterns;

5. The Servicio render no service to projects that are professionally or economically unsound and make every possible effort to encourage systematized planning.

CHAPTER 6.--THE SPECIFIC DISEASES AND NUTRITION

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THE SPECIFIC DISEASES AND NUTRITION

Most of the territory of the Latin American Republics lies between the Tropic of Cancer and the Tropic of Capricorn. The Institute of Inter-American Affairs during the past 10 years, cooperated in the field of public health with 18 of the 20 republics in this region. Fourteen of these 18 countries are wholly within the tropics. One, Uruguay, is completely in the temperate zone. The remaining three lie partly in both zones. Of these, Brazil is predominantly tropical, Chile is primarily temperate, while Mexico is more or less equally divided between the two zones. It is therefore to be expected that diseases which are characteristically tropical or sub-tropical in nature would be encountered in practically all of these countries. In the areas of high altitude which characterize the Andean regions in particular, the disease picture takes on the appearance of a temperate zone though the region may lie completely in the tropics.

It is, therefore, obvious that from the beginning of the bilateral health programs, the Servicios were confronted with temperate disease problems as well as tropical ones. The characteristics of the problems were not difficult to determine but their magnitude was less readily defined. The reasons for this stem, in considerable part, from the well recognized inadequacies of morbidity and mortality data available for the countries concerned. Despite this situation, the evaluation team found it possible to formulate, by using both direct and indirect evidence, a reasonably true picture of the problems to which the Servicios were required to address themselves.

OUTLINES OF THE PROBLEM

Some of the demographic characteristics of the region under discussion were reviewed, since this would help to define the problem as it presented itself to the Servicios. The results, summarized, follow.

Life Expectancy

As a result of the high mortality in Latin America, especially during infancy, life expectancy is well below that of Western Europe, Canada and the United States. In Latin America it ranges from 34.55 years in Venezuela (1948) to 46.0 years in Colombia (1947); it is 65 to 70 years in Canada and the United States.

Death Rates

Knowledge of the death rates in a country is useful in defining its health problems and in evaluating the quality of its medical services. Low death rates are most likely to be associated with good services for the control of preventable diseases. Table No. 1 presents, for 1942 and 1949, pertinent data on the number of deaths and the death rates in restricted regions.

TABLE 1.--Total deaths and death rates in certain selected countries

Country	1942			1949		
	Population in thousands	Total deaths	Deaths per 1000 population	Population in thousands	Total deaths	Deaths per 1000 population
Mexico.....	20,657	471,600	22.8	24,448	400,280	*16.8
Nicaragua.....	1,023	17,186	12.9	1,184	11,910	10.1
El Salvador.....	1,849	38,250	20.7	2,150	28,339	13.2
Chile.....	5,130	104,122	20.3	5,712	103,360	18.1
Colombia.....	9,469	151,091	16.0	11,015	154,392	*14.3
Peru.....	7,272	92,804	13.4	8,240	85,416	10.8
Venezuela.....	3,906	63,528	16.3	4,595	57,477	12.5
USA.....	134,831	1,385,187	10.4	149,149	1,444,337	9.7

*Based upon 1948 figures.

It is evident from the above that the Latin American countries have made considerable improvement in the seven year period covered in the table. They are, however, in a position to benefit still more from intensive efforts to control their preventable diseases. For example, the crude death rate in Chile for 1949 was lowered 2.3 per 1000 population over that which prevailed in 1942, yet in both years the Chilean rate was about twice that reported for the same years in the United States. Further efforts by Chile to improve its preventive services may be expected to progressively lower its mortality rate.

General death rates, though significant, reveal far more if they are broken down by age and by cause of death. Tables No. 2 and No. 3 present data of this nature.

It is evident from Table 2, that the people of the five Latin American countries included therein are prone to die young. The mortality rate during the first year of life, and also in the succeeding four years, is uniformly high when compared, for example, with that of the United States. This is a rate well known to be susceptible of substantial and rapid improvement by effective health services. The evidence, therefore, leads to the conclusion that uniformly effective services have not yet been realized in most of these countries.

Since this section of the report is concerned primarily with diseases that result from infectious agents and nutritional disturbances, only limited attention will be accorded other categories. In Table No. 3, deaths are classified as to cause for four representative Latin American countries. For purposes of comparison, those of the United States are likewise presented.

TABLE 2.--Deaths of persons of specified age per 1000 persons of the same age in total population (still births excluded)*

Country	Year	Age groups								
		All ages	Under 1 year	1-4	5-9	10-14	15-19	20-24	25-29	30-34
Mexico.....	1940	23.3	205.3	48.2	7.9	4.0	6.0	9.0	10.0	11.5
Nicaragua.....	1940	14.4	93.0	23.2	5.3	2.4	4.1	6.6	7.9	8.9
USA.....	1940	10.8	54.9	2.9	1.1	1.0	1.7	2.4	2.8	3.4
Chile.....	1940	21.5	239.9	31.5	2.8	3.3	6.6	9.4	9.5	10.1
Colombia.....	1938	17.3	150.5	28.5	5.8	3.1	4.5	6.2	7.1	8.5
Venezuela.....	1941	16.2	126.9	21.3	5.2	4.1		8.3		11.4

Country	Year	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85 and over
Mexico.....	1940	13.2	15.4	18.0	21.6	27.1	40.4	54.8	84.7	108.0	161.1	295.2
Nicaragua...	1940	9.0	11.0	13.1	14.5	19.0	24.7	42.4	55.4	98.0	98.8	129.0
USA.....	1940	4.4	6.1	8.7	12.8	18.6	26.8	39.2	61.1	94.8	145.6	235.7
Chile.....	1940	10.9	12.9	15.5	19.3	27.3	35.4	53.9	72.5	103.1	134.2	238.8
Colombia....	1938	9.7	12.7		18.8		35.6		--	93.2	--	--
Venezuela...	1941	--	15.1		21.5		--	--	--	58.1	--	--

*Source: Demographic Yearbook 1951, United Nations.

TABLE 3.--Number of deaths and death rates per 100,000 of population for selected causes in designated countries for 1948.

Cause	USA		Colombia		Peru		Costa Rica		El Salvador	
	Deaths		Deaths		Deaths		Deaths		Deaths	
	Total number	Rate	Total number	Rate	Total number	Rate	Total number	Rate	Total number	Rate
All causes	1,444,337	989.0	154,392	1432.6	83,022	1074.3	9,884	1179.4	30,527	1454.3
Typhoid and para-typh	233	0.2	1,560	14.5	854	11.1	50	6.0	82	3.9
Whooping cough	1,146	0.8	3,856	35.8	5,970	77.2	235	28.0	751	35.8
Diphtheria	634	0.4	485	4.5	141	1.8	61	7.3	29	1.4
Tuberculosis (all forms)	43,833	30.0	4,623	42.9	6,786	87.8	439	52.4	845	40.2
Malaria	170	0.1	2,929	27.2	2,002	25.9	525	62.6	2,794	133.1
Syphilis	11,616	8.0	655	6.1	170	2.2	51	6.1	372	17.7
Influenza	5,068	3.5	2,067	19.2	6,468	83.7	24	2.9	344	16.4
Smallpox	5	0.0	463	4.3	1,672	21.6	--	--	--	--
Measles	888	0.6	760	7.1	1,343	17.4	21	2.5	142	6.8
Typhus Fever	177	0.1	1,537	14.3	1,392	18.0	4	0.5	1	0.0
Diarrhea and enteritis	8,831	6.0	15,470	143.5	3,964	51.3	1,594	190.2	5,872	279.7
Other infectious of parasitic diseases	9,178	6.3	6,792	63.0	2,304	29.8	756	90.2	1,325	63.1
Cancer	197,042	134.9	3,462	32.1	974	12.6	492	58.7	378	18.0
Heart	471,469	322.8	6,733	62.5	2,867	37.1	737	87.9	363	17.3
Nephritis	77,377	53.0	3,827	35.5			203	24.2	254	12.1
Bronchitis	3,450	2.4	7,137	66.2	2,173	28.1	418	49.9	1,437	68.5
Ill defined or unknown cause	18,082	12.4	36,602	339.6	12,663	163.9	593	70.8	6,423	306.0

Before attempting to analyze the data presented in Table 3, it is to be observed that they are incomplete and, therefore, must be used with caution. The reason for this will be apparent from the following:

A considerable proportion of the registered deaths in many Latin American countries are listed as due to "ill defined or unknown causes". When the proportion is large, the value of the mortality data is correspondingly limited. For example, in the countries included in the table the percentage of registered deaths recorded as "ill defined or of unknown cause", were 23.6 percent for Colombia, 15.2 percent for Peru, 6.0 percent for Costa Rica and 21.0 percent for El Salvador, whereas the respective percentage for the United States was 1.2 percent.

Furthermore, the value of registered deaths in defining the disease problems of a country is reduced by the circumstance that medical certification applies to but a part of them. In Colombia, 41.7 percent of registered deaths in 1947 were medically certified. In the same year, the ratio in Costa Rica was 59.0 percent, in El Salvador 16.7 percent, in Mexico 51.0 percent, in Chile 71.8 percent, and in Uruguay 97.7 percent.

Despite these limitations, there is fair agreement among the specific disease rates for the several countries. The highest mortality rates among the infectious diseases are usually those caused by diarrhea and enteritis, followed by tuberculosis, malaria, and whooping cough but with bronchitis and influenza frequently occupying important positions. It may be that a part of the tuberculosis deaths are reported as bronchitis, which would serve to magnify the importance of the latter.

The most striking differences in the specific disease rates of these four Latin American countries, when compared with those of the United States are (1) the relatively higher incidence of deaths due to the infectious diseases, especially those usually associated with infancy and early life; and (2) the relatively lower incidence of deaths from cancer, heart disease and nephritis, which are characteristically of the later years of life. A similar picture is presented in Table 2, in that the favored mortality position of the younger age groups in the United States largely disappears in the older age groups where the degenerative diseases begin to take their toll.

The younger age group deaths that characterize the Latin American countries constitute a terrific drain on the human resources of the region and are an economic handicap of first importance. The seriousness of the situation is mitigated only by the knowledge that these deaths are largely preventable.

Morbidity Rates

The damage inflicted upon a population by disease is measured more accurately by the illnesses produced than by the number of deaths that ensue. Typhoid Fever causes death in about 10 percent of cases although this ratio has been substantially lowered when appropriate treatment with chloromycetin is employed. Malaria produces death in a relatively small percentage of cases although it ranks with tuberculosis as the world's most prevalent disease. A somewhat similar situation occurs with most of the infectious and parasitic diseases of man. It is clear, therefore, why the mortality record is quite inadequate to evaluate the burden occasioned by disease. The incapacitation and economic loss that result from illnesses are together the true measure of their importance to mankind.

The incidence of reported illnesses in Latin America is notoriously incomplete. It is not surprising, therefore, to find the records quite inadequate. Even if a satisfactory reporting system could be devised, it could not operate in these countries since in none of them is there a sufficient number of physicians to attend all the sick. In many sections, notably the rural areas, there are no physicians at all. The most reliable statistics are, therefore, to be found in the cities and towns where physicians are relatively numerous.

Some idea of the volume of illnesses in the areas under discussion may be

gathered from table 4, which is taken from, "The Basis of a Development Program for Colombia" by J. W. Mountin, published by The International Bank for Reconstruction and Development, Washington, D. C., 1950. Summary and Comprehensive Report, Chapters 9 and 12.

Thus, in Colombia there were at least 1,000,000 illnesses in 1948, if the experience in the other half of the population was similar to that presented in the table. Taking into account the many illnesses unattended by a physician, and the many that, for one reason or another, were not reported, the probability is that the number was much greater. In this same year Colombia reported 154,392 deaths from all causes. The total picture of disease most obviously includes the morbidity as well as the mortality experience.

This brief demographic review serves to emphasize the magnitude of the specific disease problem in Latin America. It supports the thesis that the population is young; that it suffers from a high mortality rate especially in the early years of life; and that the infectious and parasitic diseases are responsible for most of the illnesses as well as the deaths in the population. The nature of the infectious and parasitic diseases and some idea as to their magnitude are revealed in Tables No. 3 and No. 4.

TABLE 4.--Incidence of reported illnesses; Colombia--1948 (209 of 815 municipalities reporting which represent about half of Colombia's population)

Illness	Number of cases	Rate per 100,000 population
Malaria	89,727	1655
Influenza	75,756	1398
Intestinal parasites	72,421	1336
Hookworm infestation	40,228	742
Amoebic dysentery	38,395	708
Gonorrhea	29,614	960
Syphilis	27,158	501
Whooping cough	20,057	859
Typhoid and para-typhoid	11,207	207
Measles	11,169	478
Scabies	10,273	189
Tuberculosis of lungs	8,667	160
Pneumonia	8,599	158
Chancroid	7,802	253
Smallpox	7,356	71
Diarrhea and enteritus under 2 years of age	6,875	11,699
Erysipelas	5,255	97
Mycosis	3,883	71
Typhus fever	3,471	90
Pinta	3,395	62
Relapsing fever	3,085	57
Chickenpox	2,954	54
Mumps	2,790	51
Yaws	2,357	43
Diphtheria	2,238	96
Tuberculosis, other than respiratory	416	7
Bartonellosis	25	0.05
Undulant fever	4	0.07
Other illnesses	9,441	
	504,618	

Specific Diseases

Malaria.--From the discussion so far presented, it is evident that in 1942, when the first Servicios were created, malaria was extremely prominent as a cause of illness and an important cause of death. Many held the view that it was the major disease problem in Latin America. This position it had doubtless held for many years and accounted for the fact that the great majority of governments had already established national malaria services before the advent of the Servicios. Many of these services enjoyed excellent leadership, though few had been able to reduce significantly the malaria incidence in their countries. It was not uncommon, in 1942, to find that such services had thoroughly studied their malaria problems and knew what was required to solve them, but lacked the means to implement their plans.

Tuberculosis.--In 1942 this disease was already competing with malaria for the dubious distinction of being the Number One enemy of Latin Americans. Although its true incidence is still unknown, the morbidity and mortality records, incomplete though they are, leave no doubt that it has been, and still remains a major problem. Tuberculosis flourishes in both temperate and tropical zones, in urban and rural communities, and in all classes of society, but especially those of low economic station. The influence of urbanization and of industrialization on its morbidity, though difficult to assign precisely, is believed to be great. Often associated with these characteristically modern developments are poor housing, overcrowding, and poor nutrition, factors that are known to favor the spread of tuberculosis.

Yaws.--Though the outstanding problems during the decade under review were malaria and tuberculosis, there were others in 1942, which commanded the attention of the Servicios. Such diseases as yellow fever, hookworm disease, and yaws, to mention but a few, were important. They still are. Certain of these have rivaled both malaria and tuberculosis in restricted areas. For example, in Haiti, yaws is believed to have attacked one-third of the population, and at any one time there are at least 50,000 active cases in the population of 3,000,000.

Yellow Fever.--Thanks to the substantial advances made during the past quarter of a century in the knowledge of yellow fever, this disease no longer remains the threat to the Latin American countries that it did formerly. Immunization methods have been devised for the complete protection of the individual and other methods are available to prevent the disease from gaining access to any urban community that will take the trouble to reduce to zero the incidence of the insect vector, *Aedes aegypti*. Not only communities but entire countries in Latin America have been sufficiently foresighted to render their territory secure from yellow fever thus transmitted. The jungle type of the disease, transmitted by certain forest mosquitoes, may still raise its head from time to time, but only in populations that have not been immunized against it.

Hookworm.--Hookworm disease remains as it has been, a problem of major proportions in tropical and sub-tropical areas where climatic and soil conditions are appropriate and where the disposal of human feces is improperly provided for. Hookworm disease continues to be a heavy burden on the productive capacity of the population. It is of interest to observe that malnutrition is bound intimately to hookworm infection. Experimental work seems to indicate that hookworm infestation does not develop into frank disease unless accompanied by malnutrition.

Hansen's Disease (Leprosy). This also ranks among the larger unsolved problems of Latin America. There are over 37,000 known cases in Brazil, 8000 in Colombia and a similar number in Mexico. Other countries have a few hundred to a few thousand cases each. There are no certain means of preventing Hansen's Disease nor of effecting its cure, though several promising drugs are now being tested. Because such knowledge is lacking, but to a much greater extent because of the fear occasioned by the presence of a case of the disease in a community, it is still thought necessary to provide custodial

care for thousands of infected individuals. Hansen's Disease, being insidious in onset, is rarely diagnosed early. The infected individual is usually ignorant as to the nature of his illness and when it is disclosed he does not wish to be isolated. Segregation, however, does not offer a satisfactory solution to the problem.

Schistosomiasis.--In restricted areas schistosomiasis is a serious problem. How long it will remain restricted is uncertain. The necessary intermediate host, a snail of the genus Planorbis, is widely distributed in several of the Latin American countries, thus making it possible for the disease to spread. The threat is all the more serious since as yet no wholly practical and effective means of control has been devised.

Epidemic Typhus Fever. This disease, and the endemic or murine typhus, is prevalent in the Andean region especially, but may be found in other parts of the continent. Fortunately the means are available to control epidemics and perhaps to prevent them as well.

Plague.--Though not highly prevalent in Latin America, plague does exist and is a constant threat to the population. Like murine typhus, plague control is closely bound to the problem of rodent control and in particular, rat suppression. Substantial improvements have been made in methods for the reduction of rat populations but the price is unremitting effort in an unspectacular type of work.

There are many other disease problems such as Chagas Disease, Bartonellosis, Brucellosis and Onchocerciasis. In addition there are the more commonly known diseases like typhoid fever, the dysenteries, smallpox, diphtheria, measles, and whooping cough, which are far too common in many parts of Latin America. Methods for their control are well known in certain cases and not at all known in others. Together these diseases constitute a major burden upon the well-being of the people.

Infant Diseases.--Though knowledge is far from complete in respect to the importance of specific diseases in infant mortality, it seems to be established or at least generally accepted that a major part of infant deaths result from intestinal infections. The Shigella and Salmonella groups of bacteria and probably certain viruses which are as yet not clearly determined, are the casual agents. On the other hand, malnutrition operating either alone or in conjunction with an infectious agent is assigned a significant role in infant deaths.

A Chiefs of Field Party Analysis

In a region such as Latin America, where the accuracy and completeness of morbidity and mortality reporting are open to question, it is useful at times to fall back upon the impressions and opinions of competent resident observers as a means of checking the conclusions reached by study of the official records. An opportunity to do this was presented in a series of reports, drafted by the chiefs of party.

Towards the close of 1949, the chiefs of party were requested to furnish a list of the 10 most important diseases which were considered public health problems in the countries in which they were resident. In the instructions, no definition was offered as to what the characteristics of a disease are that permits it to be designated as a public health problem, nor were criteria provided whereby importance might be measured. It was to be expected therefore that the replies would lack uniformity and would include a wide range of disease entities.

For present purposes, we may say that a disease becomes a public health responsibility requiring specific action when knowledge concerning it has reached the stage at which specific measures for its prevention are available. It is difficult to establish priorities respecting the public health importance of diseases.

Whether the chiefs of party based their judgments on mortality rates, morbidity rates, economic loss occasioned by expenditures required to control the disease, or by reduced worker productivity, or in some other manner, was not reported.

They did assign priorities, and lists were returned from 13 countries. A total of 35 different diseases were enumerated as major public health problems in the 13 lists. Of these only one disease, tuberculosis, appeared in all the lists. Syphilis and typhoid fever were each included in 12 lists, malaria in 11 lists and whooping cough in 10. No other disease approached such unanimity except measles, which was included in eight lists.

If under the title, "intestinal infections," such diseases as diarrhea and enteritis, the dysenteries, typhoid fever and paratyphoid fever, are combined as is justifiable on epidemiological grounds, these infections were listed 25 times.

The acute infectious diseases, whooping cough, measles, diphtheria, chickenpox, meningitis, and smallpox, which may likewise be grouped on epidemiological grounds, were even more commonly listed and appeared 31 times.

First priority was accorded tuberculosis on seven lists and malaria on three, whereas the remaining three lists gave priority to whooping cough, yaws, and "diarrhea and enteritis under two years of age," respectively.

The interesting feature of this analysis is not the diverse responses in listing the ten most important diseases, but the agreement among the chiefs of party as to those which deserve to rank as the first five. These were tuberculosis, syphilis, the enteric infections, malaria, and whooping cough, the very same infectious diseases commonly found to occupy dominant positions in lists of illnesses as well as in the mortality records of Latin America. These are diseases which respond favorably to certain prophylactic and therapeutic measures commonly available and, with the exception of tuberculosis, which is a more complex and difficult problem, none of them needs to remain a potent enemy to man.

The various Latin American national health services have it within their power to reduce the prevalence of any or all of them to relatively small proportions. The persistence of these and similar diseases is a measure of the quality of a specific disease control service.

Nutrition

For convenience, nutrition is included at this point, despite the fact that it is recognized to have equal importance with the specific diseases as a cause of illness and death and therefore worthy of separate treatment.

Irrespective of race, age, sex, occupation, or residence, nutrition plays a determining role in the health of every individual. The well nourished, and the malnourished, including both those overnourished and undernourished, form a complete nutritional spectrum of every population group. Studies that have been made in Latin America indicate that the spectrum is heavily weighted on the side of malnourishment in large groups of the population but, until additional, extended studies have been made, no exact estimate of its distribution is possible. From casual observation, it is assumed that malnutrition is and always has been an important problem.

The National Institute of Nutrition of Colombia, by means of spot surveys and laboratory studies, claims that poor nutrition affects a large portion of the population of that country. This was manifested in the altered height, weight, and body measurements of the people as well as decreased work capacity and the presence of clinical findings. The diet of the Colombians was shown to be low in proteins, fats, vitamins, and essential minerals, and to be unduly high in carbohydrates.

It is well known that hookworm disease, malaria, and tuberculosis are intimately related to malnutrition in many persons who suffer from these diseases, but whether the relationship is casual defies affirmation except in certain individual situations. The sufferer of malaria or hookworm disease may be malnourished because of the anemia that reduces his productive and earning capacity and therefore his ability to provide for his food needs. Or the malnourished individual, as a result of diminished resistance, may

fall an easy victim to such diseases. Whatever be the relationship, it is clear that the well-being of the individual is compromised by faults incident to faulty nutrition as well as by certain specific diseases.

By 1942, a number of the Latin American countries were already interested in nutrition. Uruguay created a Department of Nutrition and Dietetics in its Ministry of Health in 1934, and about the same time a National Commission for National Nutrition was formed. Two years later Mexico established a Nutrition Research Institute. Somewhat similar developments occurred in Brazil before 1942, and there was an awakening interest in Chile. In 1951, there were, in the 18 Latin American Countries concerned, six nutrition institutes and nine divisions or departments of nutrition in one or another ministry. This is strong evidence of a growing appreciation of the importance of nutrition but the development can scarcely be said to be on a scale commensurate with the magnitude of the problem.

THE SERVICIO APPROACH

The situation respecting the specific diseases and nutrition to which the several Servicios originally addressed themselves has been summarized. Because of wartime objectives, among the earliest projects undertaken were a number aimed at the control of malaria.

In Malaria Control

During the eight months of 1942, following the establishment of the first Servicio, 36 projects were initiated in the specific diseases field of which 30 were devoted to malaria control. For the next few years malaria projects continued to be prominent in Servicios' programs. Thirty-five new projects were begun in 1943, 37 in 1944, 32 in 1945, and 12 in 1946. During the succeeding four years, 1947-50, there were 17 additional projects. Thus a total of 163 malaria projects were initiated in the 10 year period covered by the report, of which five were still active at the end of 1951. These 163 projects involved an expenditure as of June 30, 1951, of $9,522,223.67.

The rather large sum spent in the control of a single but very important disease was expended as follows: 51.7 percent in drainage projects of a permanent character; 39.4 percent in drainage of a temporary nature and on larviciding; 5.4 percent in DDT house spraying against adult anophelines; 1.5 percent in studies and surveys. The remainder covered projects related to personnel training, treatment, screening, and so forth.

The proportionately large amount, $4,926,181.94 which was employed for permanent control measures, mostly drainage, would appear to be in line with good planning. A certain number of these projects included other anti-malarial activities in addition to drainage, but the preponderance was unquestionably used for drainage works. Since an accurate breakdown of these project expenditures could not be made, the entire amounts were included under drainage. In like manner, certain projects listed as temporary drainage, included some drainage of a permanent character.

Against Tuberculosis

The promptness with which the Servicios were able to evaluate the malaria situation and assist in its improvement was not paralleled in any other of the specific disease situations or in nutrition. Ready made opportunities, such as were available at the outset in the malaria field, were not so apparent in the other fields; nor was there, with certain exceptions, a comparable mass of knowledge which could be drawn upon and applied.

Tuberculosis, for example, is not a disease for which there is a specific treatment or a proven method of prevention. Although $2,715,303.46 of the Servicios' funds were used to meet some of the needs in the tuberculosis field, there were but 13 such projects developed during the 10 year period. Six of these were tuberculosis hospital and sanatorium construction projects utilizing 80 percent of the entire funds. The remainder provided for projects in the actual diagnosis and care of patients in three dispensaries; the

operation of a tuberculosis sanatorium; and in support of three BCG campaigns.

Thus the major part of the funds were for buildings, and none was designated for the field studies and research which are essential if the tuberculosis control program in Latin America is to be well oriented. In fairness, however, it must be mentioned that some support of tuberculosis research was provided in Santiago, Chile, through the aid given to Quinta Normal Health Center. Similarly, in many countries, aid to the tuberculosis campaigns was provided through support of various health centers and by the specialization of personnel through the Institute's fellowship program.

In Other Areas

Eighteen specific diseases, other than malaria and tuberculosis, were considered sufficiently important to justify the expenditure of Servicios' funds for their control. Approximately $2,195,322.29 were thus employed. Of this sum 91.9 percent was devoted to control projects, 4.6 percent to buildings and equipment, and about 2.6 percent to immunization campaigns. Only $18,905.11 were devoted to studies, although in a number of the control projects a certain amount of field investigation was inherent in the operations. These specific diseases embraced anthrax, bartonellosis, brucellosis, diphtheria, goiter, hookworm disease, Hansen's Disease, meningitis, onchocerciasis, plague, poliomyelitis, schistosomiasis, smallpox, typhoid fever, typhus fever, the venereal diseases, yaws and yellow fever.

Additional aid of a more general character was given to improve the communicable disease services in two countries and to build three infectious diseases hospitals in a third. These projects cost $1,039,875.73 of which 34.6 percent was required for the building program.

Support to nutrition work was supplied in five countries. It consisted in providing certain equipment and supplies in four of the countries and in aiding the development of a nutrition and food control service in two of them. Six projects were supported entailing a total expenditure for these purposes of $469,478.18.

The distribution of the Servicios' expenditures among the major categories of their activities in the field of specific diseases and nutrition is summarized in table No. 5.

TABLE 5.--Servicios' expenditures, 1942 to June 30, 1951.

Activity	Number of projects	Total expenditures	Percentage of total expenditures
Malaria	163	9,522,223.67	59.7
Tuberculosis	13	2,715,303.46	17.0
Other specific diseases	50	2,195,322.29	13.7
Communicable diseases hospitals and departments	6	1,039,875.73	6.5
Nutrition	6	469,478.18	2.9
Totals	238	15,942,203.33	99.8

THE ACCOMPLISHMENTS

A thoroughgoing evaluation of the 238 projects noted could not be made in the time available for the survey. The evaluation team could not visit all of them. Notwithstanding, certain conclusions were drawn which the evaluators considered valid. Following is a summary.

The Work in Malariology

Although only five of the 163 projects were active at the time the evaluators

visited Latin America, it was possible to evaluate the work on a sampling basis. Certain malaria drainage projects which were permanent in character were visited. Such work has withstood the test of time and can be said to have achieved the objective for which it was done.

The DDT projects were uniformly successful in controlling malaria even in such difficult areas as the Amazon Valley. The early demonstrations of the value of DDT was a significant contribution. At Breves, Para, Brazil, the first use of the chemical by a Servicio was made in 1944. This success was followed by others and in due course DDT spraying was adopted generally. Being relatively cheap and highly effective it constitutes one of the most reliable measures against malaria.

Neither the Institute nor any of the Servicios may be credited with discovering the value of DDT spraying, but they are to be commended for having lost no time in conducting field trials and then making available to others the knowledge resulting therefrom.

In view of the fact that 60 percent of the funds used in the field of specific diseases and nutrition were employed against malaria, it is appropriate to ask if this was wise and realistic. It is to be considered that 82.2 percent of the malaria projects were initiated during the war years, and that it was the control of malaria more than any other disease that was a determining factor in the successful gathering of strategic materials. Furthermore, malaria was recognized as a serious burden operating against the economic well-being of the populations of Latin America. For these reasons, the evaluators are of the opinion that the expenditures for malaria control were justifiable and a credit to those who planned them. This opinion is reinforced by the fact that more than half of the money expended was employed in works which were permanent in character and therefore of lasting benefit to the countries concerned.

Concentration of Effort

The benefit derived from the work of the Servicios in tuberculosis and the other 18 specific diseases, as well as their aid to the development of national services and institutions charged with the control of infectious diseases, is believed to be substantial but might have been more spectacular had there been more concentration of effort. It is to be observed that the expenditures made for the control of these several diseases were but slightly over a half as great as those made for the control of malaria alone. The evaluators are not in a position to say that greater concentration of effort should have been made, but only to observe that a greater effect would have been achieved by such concentration.

Plans and Records

There is another aspect of the specific diseases control work which merits comment. The yaws campaigns will serve to illustrate the point. These campaigns have been and are being waged in a few of the Latin American republics at a total cost of $1,010,665.17. They have been of undoubted benefit to the populations affected, but it cannot be said that the incidence of the disease has been lowered substantially. The records fail to throw light on what the incidence was at the start of the campaigns and what it is now.

The chief criticism of the yaws campaigns and much of the other specific diseases work, is that base lines were rarely established from which measurement of results could be made. Operations without a base line might be justified when combating an active epidemic, as was the case in a few instances, but, for the most part, the Servicios were in a position to plan each project with care and to maintain records which would permit a fair evaluation of precisely what was accomplished. This was not done systematically.

The Importance of Nutrition

It was in the field of nutrition, however, that the evaluators were principally disappointed. Servicio chiefs appeared to be unanimous in their belief that malnutrition was widespread and of such intensity as to constitute a serious health hazard in many parts of Latin America. While recognizing the basic importance of good

nutrition to health and productiveness, relatively little was done to achieve it. It was incongruous to discover that the Servicios had invested only $469,478.18 or 2.9 percent of their funds in the field of nutrition and had developed programs in but five of the 18 countries. It is the opinion of the evaluators that much greater attention should be devoted to the problem of nutrition in the future than has been accorded it so far.

The Infant Diarrheas

Another area which calls for greater concentration is the infant diarrheas. Advances have been made in knowledge of their etiology and epidemiology but not enough to enable the health worker of Latin America to bring them speedily under control. The evaluators believe that additional field studies should be undertaken and persisted in. The hope of reducing the infant mortality which results from the infant diarrheas rests in the first instance upon research.

In conclusion, it may be reiterated that the infectious diseases and malnutrition, together, make up the principal health burden of the people of Latin America. Ill health reduces manpower and retards economic progress. These diseases are a principal factor in producing the short life span that characterizes the population of Latin America, and which in turn results in a situation whereby those who work must support the many whose productive capacity is diminished or destroyed by such diseases. The report on this phase of the survey may end on a note of hope, since it is recognized that these diseases are largely preventable. Intensified public health measures will assuredly conquer them.

CHAPTER 7

TRAINING AND EDUCATION

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TRAINING AND EDUCATION

The Institute of Inter-American Affairs has made no greater contribution toward the advancement of health and sanitation in the American republics of the south than through its training and education program. To hundreds of individual Latin Americans this program has meant greater opportunity for the cultivation and exercise of their natural talents. To their countries it has meant higher levels of technical competence and informed leadership among the health workers who participated.

This general conclusion is representative of a consensus of the specialists who, as members of the evaluation team, took part in the survey of the operation of the Institute's bilateral programs in the field of training and education in medicine, nursing, administration, and the technical health services. For the purposes of evaluation, they divided the subject matter of the survey into two major sections. The first had to do with training and education as relating to the Latin American countries, the second with the cooperative programs from the standpoint of the Institute itself. In outline and substance, the observations, analysis and conclusions as they were developed, are set forth in the ensuing summary.

I. TRAINING AND EDUCATION IN THE AMERICAN REPUBLICS

Evaluation proceeded from two broad principles accepted as basic for the study:

1. Well prepared personnel is indispensable in the foundations upon which strong and effective organizations in any field are built. Given a good program, reasonably adequate funds and a satisfactory plant, the services rendered will be no better than the competence of the operating personnel. Those responsible for the establishment of the several Servicios in Latin America were fully aware of this and from the beginning training was accorded a place high among program priorities.

2. Training is not something separate and distinct from the whole fabric of health services. It is part of their very warp and woof. The one cannot be modified or altered without at the same time changing the other.

TRAINING AND UTILIZATION OF PERSONNEL

Personnel when prepared must have a place for employment. Otherwise the training loses its primary purpose, which is to assure good services. This means that training of personnel and facilities for its utilization are in reality a single problem. Under ideal conditions the two are in balance; but in the world of today such a balance is rarely encountered.

Throughout Latin America there was found a lack of trained personnel to man existing health facilities. This lack was most in evidence in hospitals where fully trained nurses were inadequate in numbers and where many large hospitals were operating without a single graduate nurse.

In Chile, where nursing was more advanced than in many Latin American countries, a tuberculosis hospital with a bed capacity of 460 had but 16 graduate nurses and 74 auxiliaries; the nursing staff of a 380-bed general hospital consisted of 15 graduate nurses and 300 auxiliaries.

In Ecuador, where nursing as a profession is of very recent origin, the situation was still more unsatisfactory. The Luis Vermoso Hospital in Guayaquil, a 950-bed institution, was employing 3 graduate nurses and 24 trained auxiliaries, with most of the nursing service given by untrained aides.

These are but examples of a situation found to be general among hospitals. The situation respecting nursing was not unique, however. The sanitary engineers and sanitary inspectors and even the physicians were clearly insufficient in numbers to meet reasonable levels of adequacy if entire populations were to benefit from health services. Except in

the larger urban centers, however, in many of the countries visited, little effort to provide health services was in evidence. According to the latest figures available at the time of the survey, the entire medical profession of Bolivia was serving only one-third of the population. The other two-thirds had no medical services. In Brazil, 75 percent of the physicians of the country serve 24 percent of the population, living in towns of more than 10,000, while 25 percent of the physicians were available to meet the needs of the remaining 76 percent of the population, essentially rural. A similar situation was found in Ecuador, where one-half of the physicians were serving 15 percent of the population, living in the cities of Quito and Guayaquil. The other half of the physicians must provide such services as were available to 85 percent of the population, mainly rurual.

It was clearly apparent that the reason for the concentration of the medical profession in cities was basically economic. only in the large urban areas could a physician earn enough to justify the time and money required to become a physician, and only there were to be found the medical facilities, such as hospitals and laboratories, which would enable him to practice the type of medicine for which he had been trained.

Inadequacies

With such large unsatisfied requirements for trained personnel in the urban institutions, especially for nurses, nurse-aides, hospital administrators, etc., and an even greater requirement in the rural areas for physicians and other professionals, it appeared that the facilities for the preparation of all types of health workers were extremely inadequate. It was claimed that there was not enough money available to many of the institutions to permit the employment of a larger number of well trained personnel, and that imbalance everywhere to be seen between the need for and the available numbers of well prepared workers could not be corrected simply by establishing more educational institutions. Notwithstanding this reasoning, it is the considered judgment of the evaluators that more facilities for training are indicated.

The basis for this judgment can be illustrated by the hospital situation. During the field survey the evaluation team found substantial evidence that the average hospital stay and, therefore, the average cost per patient could be substantially lowered by the improvements in administrative, medical, nursing and therapeutic technics. Under good management provided by a well trained hospital administrator the patient stay at the university teaching hospital in Santiago, Chile, had been lowered from 26 days in 1946 to 16 days in 1951. In a number of hospitals the average stay of cases of typhoid fever, of typhus fever and the venereal diseases had been substantially reduced by the therapeutic use of certain of the newer antibiotics.

The consequent reduction in costs in the instances cited may be said to bear a direct relationship to the quality of the personnel administering the health services. Savings brought about by improved quality of personnel would be available to increase the numbers of workers of all categories. The major question, therefore, may not be whether a hospital can afford well qualified personnel, but whether it can afford to continue operations without such personnel.

Quantity vs. Quality in Programs

The problem of staffing in health institution, whether it be a hospital, health center or other type of organization, involves quantitative as well as qualitative considerations. Again using the hospital for purposes of evaluation, though recognizing that the principles involved have broad applicability, it may still be asserted that in no country will there ever be sufficient trained nurses to perform all the traditional functions of nursing. Even in the United States, where trained nurses are far more numerous than in Latin America, this fact is now recognized and generally accepted. It has become necessary to analyze nursing functions and decide which must be performed by the highly trained nurse and which may be safely performed by a person with less training.

The general concept now is that the nursing function of a hospital or a health service may be broken down into a number of parts, each of which is functionally distinguishable. Each part is capable of creditable performance by persons of widely different backgrounds and training and the resultant quality of the service rendered may be thereby improved, provided the parts are integrated into a functional system that operates as a team. The professionally trained nurses in such a system must be considered as the administrators responsible for coordination, training and supervision.

This thesis has been tested in the hard school of experience. Considerable experimentation is under way in various parts of the world, but nowhere, the evaluators agreed, is it more urgently needed nor does it have a more favorable environment in which to thrive than in Latin America. With no widespread and highly developed guild consciousness among the trained nurses there, they are in a position to approach problems objectively. Furthermore, it was observed that many of the nurses were already giving considerable thought and attention to the task of finding a practical solution to the nursing problems of their several countries. There was seen, therefore, a prospect of a discovery of some of the answers to this complex yet highly important problem.

Salary Standards and Effect on Services

Another aspect of the problem of personnel for medical and health facilities has to do with remuneration. Salaries need to be raised so that personnel may be employed full time and thus given an opportunity to contribute the maximum in services of which they are capable. Salaries which are insufficient for adequate self-maintenance must be supplemented in one way or another. The custom is to accumulate positions the total salaries of which will meet the individual's requirements. This is a wasteful system. It results in loss of interest and pride in any one activity and reduces the effectiveness of the individual workers. Furthermore it creates such situations as one which was observed in Chile. Eighteen public health nurses were unemployed, not because there were no positions available but because the salaries attached to those positions were too small for subsistence. In Chile, also, the assistant director of a school of nursing said to a group of doctors at a medical meeting, "Why are you recommending the training of more public health nurses when these 18 nurses cannot find positions?" Though such incidents may be unique, they point up a problem for which a solution must be found.

Sub-Professional Personnel

The evaluators observed a number of local situations in which experimentation was being carried on in the use of personnel of sub-professional grade as a means of solving the quantitative aspect of the problem. In the Amazon Valley wide use was being made of both nurse-aides in the hospitals, and visitadoras in health center operations. In Uruguay the bulk of the public health nursing in the health centers was provided by specially trained visitadoras working under graduate nurses. Many more examples might be cited but in none of them could it be said that the quantitative aspects of the nursing problem had been adequately met. Furthermore, in many instances the quality of the sub-professionals' work left much to be desired.

Experimentation directed toward a solution of some if not all of the quantitative as well as the qualitative aspects of personnel employment, is important and highly desirable. It is recommended that the Servicios give greater attention and support to this broad, complex but most important problem, by making grants to appropriate national bodies for basic studies or by conducting such studies themselves and, in the light of convincing conclusions that may ensue, develop a realistic approach to the problem. This can be accomplished by experimentation undertaken in the field. While counselling study and experimentation is an indispensable first step, it is recognized that the situation in respect to professional nursing is so critical because of the very recent development of nursing education in most

of Latin America that additional quality schools should be established. There will be important places for the full utilization of professional nurses, in administration, teaching and supervision, in numbers beyond their present availability.

II. TRAINING AS RELATED TO THE COOPERATIVE PROGRAMS

Here again the evaluation fell into two natural divisions: Training of professionals, and training of sub-professionals. The analysis and appraisal proceeded substantially as follows:

THE PROFESSIONALS

The professionals on whom responsibility rests for the health and medical services of a country are, typically, physicians, dentists, nurses and sanitarians, but may and often do include those who are members of other professions. The hospital administrator, the statistician, the public health laboratory worker, and the health educator are examples.

In-Service Training

Professional training may be of two types, in-service and academic. The former is the older yet still useful apprenticeship type which was employed rather extensively in the early years of many of the Servicios and which continues to be of considerable utility. For example: An American engineer, specialized in sanitary engineering and a member of a field party, may have associated with him a national engineer untrained in sanitary engineering. The two can work as a team, the one with special training and experience serving as the tutor and the other as the apprentice. Over the years, by this in-service method of training a considerable group of competent national sanitary engineers has been created. On occasion this sort of training was supplemented through the fellowship program by a formal academic experience. In-service training is one of the surest methods for the identification of superior individuals, the type for which the foreign fellowship program was especially designed. The same sort of apprenticeship training has been employed in various Servicios to prepare doctors and nurses as well as sanitary engineers.

The Planned Conference.--Another type of in-service training which was observed in a few areas of Latin America was the planned conference. As an example, the nurses attached to the Cerro Baron Health Center in Valparaiso, Chile, were required to attend a weekly conference at which each shared her experiences with the others in regard to the special problems she had encountered and the expedients for solutions, successful or not, which had been tried. The advantage of this type of in-service training is that the individual experience becomes the group experience and each person profits. A competitive sense is developed and the individual's creative powers are stimulated.

The planned conference may embrace, of course, more than one category of worker. The entire health center group--doctors, dentists, engineers, nurses--may be assembled at regular intervals for the purpose of sharing experiences, analyzing problems and discussing possible solutions, planning for new undertakings, and so on. Such conferences have unique value in that they tend to weld the group together so that it thinks of itself and conducts itself as a team. A sort of mass action phenomenon results whereby the total effect is something more than the sum of the individual activities.

In-service training of professionals should be a constant preoccupation of the administrators of every Servicio since it provides the means for continuous improvement in the quality of performance.

Academic Training: Specialization in Public Health

In the early period of Servicio operations it was found necessary to send nationals abroad for specialized training. To this end the fellowship program was established by the Institute and hundreds of physicians, engineers, and nurses were sent to the United States. While this eased the situation, it did not solve the problem in any country. It was

evident that no fellowship program could ever hope to meet the entire need for specialized personnel, that each country must solve the problem in its own way. At the time of the survey a number of the Latin American countries had taken steps to do so, with the result that it was no longer necessary for a Latin American to go to continental United States for training in the several branches of public health. He could choose among at least six institutions located in Brazil, Chile, Mexico and Puerto Rico, all of which were offering appropriate courses, including:

Sanitary Engineering.--University of Sao Paulo, Brazil: Under-graduate course in Sanitary Engineering of the School of Engineering, and post-graduate course in Sanitary Engineering at the Faculty of Hygiene and Public Health.

University of Chile, Santiago, Chile; Course for Sanitary Engineers at the School of Public Health in collaboration with the School of Engineering.

Autonomous National University of Mexico: Special courses in Sanitary Engineering in the Engineering Division of the Graduate School.

University of Puerto Rico, School of Medicine, School of Tropical Medicine: Course leading to the degree of Master in Sanitary Science.

Public Health.--University of Sao Paulo, Brazil, Faculty of Hygiene and Public Health: Eight months' course in hygiene and public health for doctors of medicine, and specialized courses for doctors in various disciplines. Courses for sanitary engineers, health educators and nutritionists.

University of Chile, Santiago, School of Public Health: A seven months' course in public health and specialty courses in Hospital Administration, six months (three devoted to practical experience in selected hospitals); Maternal and Infant Hygiene, three months; Public Health Laboratory, three months; Course for Sanitary Inspectors; three months; Course for Teachers in Health Education, eight months; and Course in Statistics for Clinicians, four months.

School of Public Health and Hygiene of the Secretary of Public Health and Assistance, Mexico City, Mexico: Courses in: General Public Health, seven months; Public Health Nursing, seven months; Hospital Administration, seven months; Medical Social Work and Assistance, five and one-half months. Also special course from one to 16 weeks in Mother and Child Hygiene; Industrial Hygiene; Applied Medical Statistics; Health Education; Prevention and Treatment of Venereal Diseases; Prevention, Diagnosis and Treatment of Tuberculosis, Clinical and Health Laboratory, Tropical Diseases, Malariology, Intestinal Parasites, Mental Hygiene, Sanitation; and a two weeks' course for public health nurse supervisors and head nurses.

University of Puerto Rico, School of Medicine, School of Tropical Medicine: Special courses leading to the degree of Master of Sanitary Science, and Master in Public Health Education, a certificate in medical technology, and a certificate in Public Health Nursing.

There are distinct advantages for Latin Americans studying in institutions such as the above, rather than in the United States. It is cheaper, since the travel involved is less and the cost of living not so high. The period of adjustment is shorter because there is no language problem and the social and cultural environment is not markedly different from that of the student's home land.

It is recommended that a wider use be made of the Latin American schools for fellowship training, reserving the United States schools for special cases.

The men and women who have benefited, or will in the future benefit as a result of such academic and in-service training are, for the most part, the product of the various national schools of medicine, dentistry, engineering and nursing. Public health as well as medical services, therefore, are conditioned in a very real sense by the quality of medical, dental, engineering and nursing education.

Logically, any effort to advance a broad health program, one that neglects neither preventive nor curative medicine and that is concerned with environmental as well as personal health, must take into account all these educational institutions.

Medical Education

Throughout much of Latin America, the evaluation team observed that the quality of their medical education was not at a level consonant with the best health and medical interests of their countries. It was apparent, however, that to improve medical education many changes would have to be effected. Some of these appeared to be quite easy of accomplishment. Many, it was seen, would be difficult because so radical. Analysis was based upon what were regarded as certain essentials of a good school of medicine. The list, it was realized, was far from complete but was found useful for comparison with what was found rather generally in Latin American schools. The listing:

1. There must be limitation in the number of students, with appropriate methods for their selection, so that the best only will be matriculated. (In most of the countries visited there had been found no limitation of matriculants. Chile was an outstanding exception. Here the number was restricted to correspond with the teaching facilities.)

2. Faculty members should be selected on the basis of teaching ability and scientific productiveness. They should enjoy reasonable security in respect to income and tenure. The departments responsible for the basic sciences should be staffed by individuals who devote their attention exclusively to their departments without the need to seek additional employment. (Relatively few of the schools of medicine observed in Latin America could be said to measure up to these requirements.)

3. The school plant should have sufficient space in lecture rooms and especially in laboratories to accommodate the maximum number of students permitted to matriculate. The scientific equipment and supplies of laboratories should also be adequate to permit good instruction in the basic subjects. Hospital wards of all types should be freely available for teaching the clinical subjects. Workable relationships should be established with the local health services so that the social and preventive aspects of medicine may be taught. (Of these requirements, the hospital facilities for teaching clinical medicine were found to approximate adequacy more frequently than any of the other facilities. The basic science teaching usually fell below a reasonable standard as was true of preventive medicine and public health. The latter indeed was inexcusably neglected in some schools.)

4. A good library is essential. (Few of the schools observed were adequately equipped.)

5. The medical school budget must be large enough to sustain good operation and administration. (Budgets were reasonably adequate in a few schools, but quite the reverse in many.)

In a number of countries it was apparent that much thought and effort was going into measures for the betterment of medical education. The country was rare in which no attention was being directed to the subject.

The Question of Quantity vs. Quality.--Schools of medicine exist to train physicians who as a group constitute the most essential element in providing medical care to a population. These institutions, however, have everywhere a crucial decision to make: Shall they devote their efforts toward meeting the countries' needs quantitatively, or shall the quality of their product have priority?

As already mentioned in many Latin American countries only a part of the population was found to enjoy medical services. For this reason there had developed a school of thought advocating the production of more and more physicians even at a sacrifice of quality, and insisting that a poorly trained doctor is better than no doctor at all. The evaluators agreed that this extreme position was not tenable if the best interests of the people were to be achieved; nor, they felt, was the opposite position any more so. They were inclined to the view that the solution of the problem in Latin America as in the world generally,

probably would be found to be somewhere between these extremes.

The survey indicated that an important reason for the divergence of views respecting the aims of medical education stemmed from the fact that institutions charged with responsibility for education rarely were carrying the responsibility of providing medical services for the people. A variety of agencies, official and voluntary, were operating in the hospitals, the health centers and other parts of the medical services of a country. In most of Latin America the Ministry of Health had the chief responsibility, yet it was rare for this ministry to have more than a very minor voice in shaping policy to determine the number and quality of physicians to be trained to man those services. Though stressed in the report on program planning it would seem to be not out of point to reemphasize here the conclusion that the Ministry of Health, the Ministry of Education and the schools of medicine should consult, study, and plan jointly in order that the product of medical education may be prepared to carry on the type of services needed.

Factors of Cost.--Another aspect of the problem of the education of professionals stressed by the evaluators was cost of production. Discussion developed these considerations:

In the United States it has become so expensive to educate physicians and dentists that a number of the schools are experiencing serious financial difficulties, with the prospect that the situation will get worse pending the discovery of some new sources of revenue. This has led some to suggest that there should be other ways of producing physicians that will combine a shorter period of training in a strictly academic institution with an extended intensive vocational period of training in the clinical field.

Implementation of this suggestion could result in a situation not unlike that which until recently existed in India. This vast sub-continent with a teeming population attempted to solve its medical care problem by producing two categories of practitioners. On the one hand were the bachelors of medicine who might, after performing work of an original character, become doctors of medicine, and on the other licentiates in medicine. The latter were produced in a shorter period but there was really no fundamental difference in the curricula followed in the two types of institution. Eventually this system was abandoned as a failure and the institutions producing licentiates ceased to exist as such or were upgraded to the higher category.

Another example of experimentation with medical education and practice was cited. In Suva, Fiji Islands, there was established, some 40 years ago, a school of medicine for the training of young islanders in medicine. Starting with boys having a high school education, a four-year course of training was given and the product was called a "Native Medical Practitioner." These graduates had the advantage that they were quite willing to live in the native villages of which they were socially and culturally a part. To a considerable degree they met the clinical needs of the people on the islands, who otherwise would have had little or no medical services. Previously the only medical services available to the islanders were furnished by the doctors of the British Colonial Medical Service who were few in numbers and functioned in any one area at irregular intervals, as they toured the islands.

The native medical practitioner system was thus superimposed upon the existing colonial medical service. The success of the combined service resulted, in the opinion of those who have had administrative responsibility for it, from two factors that were brought into coordinate relationship: (1) The native medical practitioners, because of their numbers and distribution, made it possible to bring facilities for the diagnosis, prevention and treatment of common ailments to all the people. They helped to solve the quantitative aspects of the medical care problem. (2) The officers of the Colonial Medical Service added quality. The native medical practitioners were supervised by the Colonial Medical Service officers and when

the former were in need of consultant service or other assistance it could be had for the asking. Whether the primary requirement is for quality or quantity and whatever may be the cost, the fact that medical education does have a direct relationship to medical care raises the question as to the Servicios' responsibility in the matter.

An Unusual Challenge.--It is strongly felt that medical education should receive a larger share of the attention of Servicios than in the past. The fact that no sure course of action can be forecast should only add zest to acceptance of an unusual challenge. Steps that can and should be made preliminary to even tentative conclusions are these:

Study of the many functions of physicians in public service, whether in hospitals, health centers or other public health activities.

Classification of these functions into those which physicians alone can perform and those which might safely be assigned to other categories of personnel such as nurses or sub-professionals.

In many areas it was observed by the evaluators that such a division of responsibility had already taken place. Immunization against smallpox and other diseases was being performed by nurses and sanitary inspectors. The diagnosis and treatment of malaria, hookworm disease, yaws, etc., by the same types of personnel was found to be not uncommon practice.

Success in work of this character depends in large measure upon the quality and the availability of supervision by qualified physicians. By some such procedure it had been possible to bring to remote, rural populations the benefits of modern medicine and public health.

It may well be that following a painstaking study or job analysis of the physicians' work, organizations could be established, with appropriate safeguards, that would extend the services still further to remote and often scattered populations.

THE SUB-PROFESSIONALS

The evaluators were of the opinion that a similar study of the nurses' work might result in transferring to sub-professionals still other functions. This would entail a substantial expansion in the number of sub-professionals of all categories. Their preparation would raise two important problems:

1. How shall training be provided?
2. How shall recruitment be conducted?

Training might follow the same general plan as outlined for the professionals--an apprenticeship type of in-service training and/or formal schools. In either case the training should be planned so as to assure competence on the part of the worker to perform the limited tasks required. Ultimate responsibility for the training must rest with the professionals.

In a number of the countries visited there was found a body of experience in sub-professional training which would prove valuable in case a more extended use should be made of this type of worker. The survey, however, uncovered a lack of permanent in-service training among the sub-professionals which the evaluators considered indispensable if this type of worker was to perform creditably in an enlarged field of responsibility in a national medical care service. There appeared to have been relatively little experience in the matter of recruitment of persons for training as sub-professionals, nor was there evidence that the subject had been seriously studied in the health field generally.

There was observed a disposition to question the value of the sub-professionals on the ground that their educational backgrounds and understanding were such as to limit unduly their effectiveness as workers, and that in the long run it would be more economical to abandon them completely in favor of the well trained professional. Agreeing that reliance cannot be placed exclusively on the use of professionals, the evaluators were inclined to this view of the matter:

The cause of failure in the use of the non-professionals may result in no small part from the type of person that has been

trained. Often the recruiting procedure has taken no account of the fact that certain types of jobs call for certain qualities. The sub-professionals who are to be prepared to assist in handling the sick must have not only reasonable intelligence and a degree of dexterity, but kindliness, devotion and a sense of responsibility. The sanitary inspector who must work with people in advancing his program of environmental sanitation must be intelligent, persuasive, dexterous, inventive and friendly. None of these qualities is restricted to the educated classes. They are as common in one strata of society as another.

The problem is how to identify in recruits the innate qualities that are desired in persons who are to be trained for a specific and restricted set of functions. Manifestly there will be considerable variation among individuals. Some will be endowed with only a part of the desired qualities, others may have them in combination with some undesirable traits, and pure cultures, so to speak, of the qualities sought may be rare.

There are obvious difficulties to scientific recruitment, but this does not mean there are no advantages. The health administrator must look to the psychologist, the cultural anthropologist and kindred professionals to furnish the technics whereby the human qualities that are sought can be identified and possibly measured. Once a selection has been made among potential recruits, the process of training offers no inherent trouble.

Quantity seems to be associated with the sub-professional and quality with the professional. Also, and this is to be underlined, reliance must be placed upon the shoulders of the highly trained, well qualified professional for leadership in planning, in training, in supervision and in general administration of the lower category worker. Furthermore, it would be difficult to overemphasize the need to develop team consciousness among both the professionals and the sub-professionals. Unless the team functions as does a smooth running machine, with its several parts completely coordinated, the maximum benefit will not be achieved.

INSTITUTE RELATIONSHIPS

In the course of the survey at least three aspects of training and education that have pertinence to the Institute itself entered into the evaluation.

The first of these has to do with the physicians, engineers, nurses and others sent to the United States for specialized training in appropriate institutions. These are fellowship or travel grantees. The Institute has no direct responsibility for their selection since this is done by the several Servicios, but upon arrival in the United States it places them in various schools and during their sojourn it provides such counsel, guidance and encouragement as may be required to assure the best utilization of their time and opportunities.

Fellowship Records

From June 1, 1943, when the fellowship program was initiated until the end of 1951, a total of 1,302 grantees had been sent to the United States. This involved a total expenditure through the fiscal year ending June 30, 1951, of $2,148,324.30. This sum constituted a separate and independent contribution from the Institute in support of the Latin American program. None of it was ever used to match country contributions. The provisions for the fellowship program did not exclude the possibility of independent action by the Servicios, a number of which allocated small amounts of their joint funds to provide for additional fellowships and travel grants. For example, up until June 1, 1951, in Chile, $30,681.90 was expended for this purpose. On occasion the cost of a fellowship was shared jointly, the Servicio providing transportation which could be purchased in the local currency and the IIAA covering the dollar costs including tuition, maintenance and travel in the United States. Irrespective of how fellowships were financed, they were always administered by the Institute.

The 1,302 grantees included 753 doctors of medicine, 262 engineers, 120 nurses, 37 dentists, 15 health educators, 31 laboratory technicians and 84 others, such as hospital administrators, veterinarians, architects and chemists.

In the opinion of the evaluators, the significance of the fellowship program is to be judged in part by the records of the recipients subsequent to their return to their own countries, although it is impossible in this way to assign a true value to the fellowship experience since there is no way to know what the individuals might have accomplished had they not had it.

A review of the records of returned fellows in El Salvador, Ecuador and Chile showed that of the 73 Chilean returned fellows, 69 or 94.2 percent were employed at the end of 1951 in positions for which they were trained or in similar ones. The record in El Salvador, with a total of 25 returned fellows, showed 20, or 80 percent, similarly employed. In Ecuador, out of 28 returned fellows, 24, or 85 percent were in official positions. It was a common occurrence in these and other Latin American countries to find that returned fellows had risen to positions of importance in their national health services and various ministries. Noteworthy in this regard was El Salvador, where three of the 25 returned fellows were undersecretaries, one in the Ministry of Public Health and Social Assistance, one in the Ministry of Education, and the third in the Ministry of Public Works.

The evaluators were convinced of the very considerable success of the fellowship program. It was well conceived, well administered and resulted in strengthening the indigenous health organizations as well as paving the way for the incorporation of certain Servicio projects into the permanent public health structure.

The Field Staff

A second way in which training was seen to touch the Institute itself related to its field staff. Numbering close to 100, these members are largely domiciled abroad for varying periods of time. This means for each of them a physical separation from the stream of developments and the stimulus of leaders at home, with an ensuing hazard of retrogression in ideas and action. Scientific journals aid greatly in helping the staff keep fresh, alert and up-to-date, as do the periodic meetings of Institute members in the field or home office. In addition, a refresher period at home, free of other responsibility might well be a requirement of all, every few years. It is recommended that some such provision be established.

Recruitment

A third possible area in the domain of training in which the evaluators felt that the Institute might develop interest and from which there could accrue benefit was in the recruitment of Institute staff.

Recent studies of the manpower situation in the United States had revealed a large and unsatisfied demand for technically trained personnel in the health field generally. Twenty percent of all the professional staff positions in the federal, state and local health services were reported to be unoccupied for lack of qualified candidates. With an expanded medical corps for the military and an expanding technical assistance program in the health field, the disparity between supply and demand seemed likely to broaden and in consequence the Institute might encounter more and more difficulty in recruitment. The question arose as to whether the Institute should embark upon a training program of its own to meet recruitment needs. It was agreed that the organization is ideally set up to conduct such a program. Its broad field of operations, staffed by men and women of long experience, would seem to provide the necessary requirements for apprenticeship training. Furthermore, its years of successful operation of a fellowship program would assure the necessary supervision of staff recruits who might be assigned eventually to one of the schools of public health in the United States as a part of their technical preparation. In this fashion the Institute could provide for its needs, quite independent of the competition from other organizations and agencies requiring similar personnel.

CONCLUSION

The members of the evaluation team were impressed with the opportunities in the field of training and education that confronted Servicios in most of the coun-

tries of Latin America. Until appropriate personnel is available suitably to man the many existing facilities and those planned for the near future, the question is raised as to the desirability of Servicio participation in the creation of many additional facilities.

Knowledge respecting the subject of training and education, though vast, contains sizeable lacunae. The welfare of the health and medical services everywhere requires that these lacunae be filled in. The various Servicios are in a position to sponsor, subsidize or conduct the study and experimentation so necessary to secure the knowledge that is lacking.

Because of the considerations set forth, it is recommended that the Servicios in their program planning address themselves to this fundamental: That until many of the pressing problems of training and education are much better understood and solved, partially if not wholly, a larger proportion of available resources should be devoted to the subject.

CHAPTER 8.--NURSING

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NURSING

THE BACKGROUND

It was recognized soon after the establishment of the Health and Sanitation Division of the Institute of Inter-American Affairs, that nurses, especially in the field of public health, were one of the groups of technical personnel needed to carry out the objectives of its bilateral health programs in Latin American countries. While the doctors and engineers in the early programs were largely drawn from the Army, or in many cases, were commissioned in the Army upon employment by the Institute, there was apparently no thought of using the Army Nurse Corps as a source of nursing personnel. This may have been due to the fact that even though many public health nurses had joined the armed forces, the work of the Corps up to that point had been only for providing staff for military hospitals, and it was much later that a classification of public health nurse was established.

Apparently, the first demand for nurses in the Institute programs was not stimulated by the Washington office, but came about through requests from the field parties. In some instances, nurses who were already working or living in Latin American countries were employed directly in the field. In the course of the survey it was not unusual to find that nurses employed by the Institute had previously worked for the Pan American Sanitary Bureau or the Rockefeller Foundation, or both. The Pan American Sanitary Bureau handled the employment and assignment of some of the nurses for a time. This was done on a reimbursable basis, and was discontinued as the Institute program was expanded and the organization found it desirable to build its own staff.

According to records available, the first nurses were assigned as early as 1942. At that time there was no position for a nurse in the Institute's Washington Office and, in many instances, nurses were employed without much investigation as to whether their experience fitted them for the particular assignment or not. They were frequently sent directly to the field with no orientation in or explanation of the program and problems they would find. However, the fact that they were assigned to a field party and had an organization within which to work helped a great deal, at least in relation to personal adjustments. Certain assistance was also available in some countries where the Rockefeller Foundation or Pan American Sanitary Bureau nursing consultants were already working.

One of the objectives of the evaluation survey was a thorough study of the way in which nurses had worked within the bilateral program, and the value of the Servicio as a means for preparation, training, and use of nursing personnel.

THE PROBLEM

In many areas the Institute personnel had reported finding a scarcity, or in some cases complete absence of all types of public health personnel, particularly nurses. Some countries had schools of nursing which provided training of a sort. Others had developed them to a greater extent, but still were not able to provide the number and quality of nurses needed if active programs for adequate care of the sick and improvement of the public health were to be undertaken.

In connection with the general subject of the need for nursing personnel in public health work and the value of having trained workers render nursing service in homes, hospitals, and clinics, the evaluators felt that the following from the Report of the First Session of the Expert Committee on Nursing, of the World Health Organization (Technical Report Series No. 24) was a comprehensive statement of the reasons for developing training programs for nursing personnel and might serve to clarify the issues inherent in the Institute's cooperative programs:

> "The committee considered the lack of nursing personnel, which is world wide. Medical and public health authorities contend that the lack of nursing personnel hampers progress of practically all health programs. The quantity of available nursing services varies among

countries from those with none whatever for millions of people to those with one nurse for approximately each 400 persons. The latter ratio applies in countries with highly organized health services; even in these countries, however, hospital beds are unused and new health programs are impeded for want of nurses.

Nurses are needed in greater numbers than other categories of health workers because they have direct, individualized, and lasting contact with people, sick and well. In this sense, nurses are the final agents of health services.

Provision of nursing personnel is not keeping pace with advances in medicine and public health. Established health programs, as well as new programs, call for measures to increase and improve the supply of nurses and for better use of the supply. This increase in demand will be accelerated by further economic development, industrial expansion, and elevation of standards of living within countries."

While it was not possible to obtain counts of nurses in the various Latin American countries in 1942, a survey was made by the Institute in 1948, to determine how many graduate nurses were actually employed, and how many of these were working in public health. Table No. 1, Counts of Nursing Personnel, gives some indication of the situation then and in 1942.

Latin American countries generally have not as yet developed either a clear cut differentiation of nursing titles or similarly well defined requirements for nurse registration and licensure. This must be taken into account in consideration of the Institute's 1948 survey and comparative figures as given in Table No. 1.

Since the actual need for nurses in the various countries was not known, the evaluation team had no realistic standard on which to base estimates. In 1949, the World Health Organization Expert Committee on Nursing requested that the WHO staff develop a guide which could be used to study their nursing situation as a basis for making plans. WHO obtained consultation from a widely representative group of nurses, many of whom had had extensive experience in developing nursing and health services in underdeveloped countries. The final consensus of this group was that it was not practical or realistic to attempt to set up goals for numbers of nurses based on overall population figures. Its recommendation was that as health centers or hospitals should be opened, estimates could best be made on the basis of specific programs to be established and the services to be made available. Such an approach would make it possible to take into consideration the optimum use of all types of nursing personnel, subprofessional as well as highly trained professional, needed to give the best and most efficient service and to plan for their training and continuous supervision. (See "Guide for National Studies of Nursing Resources", prepared by Margaret G. Arnstien, Special Consultant U.N., WHO, Nursing/Int./1/ Jan. 9, 1951, restricted).

THE APPROACH

During the ten years of activity under the bilateral health programs, the scope of activities of the nurses in the field took on a wide variety of aspects. As already indicated, in most countries the original purpose of having a nurse on the field party was to develop public health nursing activities in health centers. The nurses initiated training programs in public health for girls who were already graduated from national schools of nursing, or in some instances in which there were no nurses available, they trained public health visitors (visitadoras).

Along with this plan for providing some public health nursing service as quickly as possible, the necessity for making long range plans which would fulfill future needs for nursing service was interpreted to the health leaders of the countries. Consequently, attention was directed toward establishing schools of nursing or strengthening those which already existed. These projects were sometimes undertaken as a joint effort of the Institute and/or the Sanitary Bureau and Rockefeller Foundation.

TABLE 1.—Counts of nursing personnel

Country	Population[1]	Professional nurses on duty				Auxiliary nurses	
		1948		1952		1952 only	
		Total number nurses employed	Number nurses working in public health	Total number nurses employed	Number nurses working in public health	Public health (*visitadoras*)	Hospital
Bolivia	3,990,000	121	49	161	42	[2] --	364
Brazil	49,340,000	750	300	2,570	440	775	1,280
Chile	5,709,000	800	175	1,019	291	1,380	[2] --
Colombia	11,015,000	320	17	[2] --	178	270	269
Costa Rica	837,000	[2] --	[2] --	410	62	0	218
Dominican Republic	2,116,000	[2] --	[2] --	[2] --	[2] --	[2] --	[2] --
Ecuador	3,000,000	55	6	71	8	36	330
El Salvador	1,800,000	97	51	150	62	25	400
Guatemala	3,784,000	188	16	238	19	[2] --	[2] --
Haiti	3,100,000	155	20	[2] --	[2] --	[2] --	[2] --
Honduras	1,100,000	25	0	36	4	25	[2] --
Mexico	24,448,000	[2] --	[2] --	[2] --	[2] --	[2] --	[2] --
Nicaragua	1,100,000	[2] --	[2] --	68	[2] --	[2] --	[2] --
Panama	764,000	[2] --	[2] --	290	52	10	137
Paraguay	1,444,000	26	[2] --	33	7	[2] --	489
Peru	8,240,000	1,107	40	1,456	50	32	85
Uruguay	2,353,000	250	5	296	21	72	172
Venezuela	4,595,000	634	80	[2] --	[2] --	[2] --	[2] --

[1] Population figures from Data Book, Volumes, I & II, Latin America, Department of State 1951
[2] Data not available
[3] Counts for 1952 may be available later
[4] 28 *Visitadoras* on duty in Paraguay (1948)

The Nursing School

In developing a school of nursing there are several considerations which are essential: Recruitment of students, housing, teaching facilities and classrooms. Perhaps most important of all for the production of nurses is a faculty capable of planning programs, and practice areas which are suitable for supervised experience in patient care. This latter requirement immediately brought the hospitals into the picture since long experience in many countries had proven that in training nurses there is no adequate substitute for the process of teaching the principles, demonstrating the procedures, and giving the students an opportunity to practice actual patient care under supervision. Consequently, in addition to actual construction and operation of hospitals for providing patient care facilities, there was the additional motive of providing training areas for doctors and nurses.

National Participation.--The National School of Nursing of the Central University in Quito, Ecuador, might be used as an example of a project showing excellent results in progressive national participation and demonstration of the possibilities of interagency cooperation.

Before 1942, there had been a school of nursing connected with the General Hospital (Hospital Eugenio Espejo) which conducted a three-year course. The school was directed by a physician. All the instruction was given by doctors. The curriculum was limited and there was no opportunity for supervised clinical experience. Since there was no residence, the students lived either at home or in poor living quarters. In no way did the school meet minimum standards for nursing schools. At that time one of the physicians from the Pan American Sanitary Bureau, who made frequent visits to Ecuador, was able to convince the Minister of Health of the value of having a national source of adequately trained nurses.

In 1943 the Minister of Health requested that two North American nurses be assigned to Ecuador to assist in reorganizing the School of Nursing or if necessary to establish a new modern school of nursing. Two nurses were assigned to Ecuador by the Pan American Sanitary Bureau. A new School was established, and the old school of nursing was discontinued.

Since it was necessary to provide the newly organized school with adequate quarters, the Servicio agreed to do the necessary reconstruction and adaptation of a building provided by the Ecuadorian government for this purpose. This building was originally built for a children's hospital. Since the government had not put it to use it was turned over to the new project. The Rockefeller Foundation cooperated by furnishing some of the equipment, assisting in the initial cost of operation, and providing consultation service.

Until 1950 one of the Institute nurses assigned to Ecuador acted as director of the School of Nursing. During this period an Ecuadorian nurse, graduate of the first class, was sent to the United States for a year's study, returned to become assistant director of the school and was trained to assume the directorship. In 1950 the Institute consultant nurse continued to give consultation and gradually turned over more and more the responsibility of the School to the new director. When the evaluation team visited Ecuador the government was completely supporting its School of Nursing as a part of the University, with the Servicio continuing to supply some scholarships to students. An advisory committee made up of representatives of the University and the Ministry of Health was working with the school faculty in setting up and maintaining standards. There had been a continuous attempt to keep the requirements for admission, the provisions for clinical experience and the curriculum content in line with the needs of the country. As of the end of 1951, 98 nurses had graduated from the school, 60 students were enrolled.

At the time of the survey the Institute was cooperating in the entire building programs, or in making building additions or adaptations, in 10 schools of nursing in Latin America: One each in Guatemala, Salvador, Colombia, Haiti, Ecuador, Uruguay, and four in Brazil. Some

assistance was being given to the operation of 12 schools: One each in Colombia, Haiti, Ecuador, Uruguay, Paraguay, Venezuela, and six in Brazil. This assistance was in some cases the bearing of the major part of the cost of operation, as in Colombia; or, in other instances, in making scholarships available to students. Some technical consultation on nursing education had been made available in all countries, even when no nurse had been specifically assigned for that purpose.

It seems doubtful whether the development of schools of nursing patterned after those in the United States will be the solution in Latin America. Rather, in developing schools of nursing, it would seem wise to make long range plans for the preparation of national nurses to be especially well trained (1) for working in those particular fields which constitute the major health problems in their countries; and (2) for taking responsibility for the training and supervision of auxiliary personnel in hospitals and health centers. (See Basic Education of the Professional Nurse--ICN Committee on Education, Reprint 1948).

In view of the needs of the countries, it is strongly recommended that continued support be given to schools of nursing. This support can be contributed in a number of ways:

Construction of buildings to house schools and, when considered necessary, to provide housing and living conditions for the students. There is no doubt that a good building contributes to the status of the nursing profession in the country and increases the possibilities of recruiting students who have better educational and social backgrounds.

More attention to improvement of practice areas. In many instances this will include use of some funds for reconstruction of buildings or purchase of equipment to provide basic essentials for patient care. Equally important, however, is the assistance that could be given to improve the efficiency of operation of the existing institutions.

Continued consultation to the schools to be expanded to include: Assistance in the administration of the school; curriculum planning based on knowledge of the needs of the country, not current practices in the United States; preparation of instructional personnel; assistance in planning curriculum content; and aid in providing supervised practice. Direct assignment of Institute nurses as directors or instructors of schools of nursing should be avoided if at all possible, or undertaken with the understanding that it is done only for an interim period.

Continued consideration to gaining more active public support for the schools of nursing, and at the same time making opportunity for wider interpretation of nursing by the setting up of advisory committees with representation from community leaders.

NURSING SERVICE IN HOSPITALS

It was observed that with a few exceptions, the Servicio had not been actively concerned with hospital operation as such. This was said to be partly due to the fact that the original purpose of the program was specifically to strengthen preventive health services. Also, the expense involved in hospital operation had made such projects impractical.

In order, however, to gain a better understanding of the total problem of providing health services in Latin America, the evaluators explored the current practices for providing nursing services in hospitals, and the way in which hospitals were administered.

Most of the hospitals seen were desperately short of supplies, and extremely crowded. Facilities and equipment to provide for the greater part of patient care was in the hands of untrained workers, with only a few graduate nurses available to work as head nurses. In many hospitals there were no nurses with any formal training. Frequently the nursing service was under the direction of nuns, usually Sisters of Charity or the Order of St. Vincent de Paul. Certain wards of some hospitals had been taken over by a school

of nursing, to be used for clinical practice, and special effort had been made to provide at least a minimum of equipment and sufficient supervision. Usually these wards were cleaner, the patients looked more comfortable, and there was evidence of more efficiency in the way the work was done. It was reported in Ecuador that the doctors on the hospital staff were requesting the school to take over more wards because they preferred to have their patients on the practice wards. It was also said that patients were beginning to request that they be admitted to those wards where the students worked because they received better care there.

In most of the hospitals visited it was not possible to obtain specific information on nursing service hours or division of responsibility for basic nursing duties. Considering the shortage of personnel and the necessity for using nursing time to the greatest advantage, it seemed to the evaluators that careful plans should be made for the use of each trained person.

With such plans in operation it would be possible to determine what personnel are needed and how they can best be trained for their responsibilities. To be effective, such a plan would need to consider all types of nursing and auxiliary personnel who contribute to the hospital operation, since all departments have some effect on the care received by the patients.

In some instances, it was stated that separation of a sick child from his family for hospitalization constituted a real problem. Although in some places the mother is allowed to stay in the hospital with her child, it might be advisable to consider ways in which it would be possible for the mother to be trained to give the nursing care while she is with the child.

NURSING SERVICE IN PUBLIC HEALTH

The programs of the Servicio have usually included some projects for the operation of health centers. In a number of instances it was observed that the organizational pattern and the overall program of the Servicio health center had been used as a model for other health centers developed in the country. There was considerable indication that the services offered were sought by the people. This was particularly true where consideration had been given to providing some curative services in combination with the usual preventive ones.

Programs which did not seem to be sufficiently comprehensive, or where the emphasis seemed out of balance in relation to needs, could always be explained on the basis of shortage of trained personnel. As noted earlier, when the Servicios were established there were frequently no nurses with public health training available to staff the health centers. Sometimes there were no nurses at all, or only a limited number who had had basic nurses' training. In almost every country visited it was found that some programs had been started to meet this need. In El Salvador, for example, in 1946, a training course had been given for graduate nurses already employed in public health work. Twenty-four nurses had completed the course, and many of them were still employed in public health work in the country. It was reported that the course was very well received, and resulted in improved services. No reason was given for not repeating it. Apparently the public health nurse who was responsible for it left the field party in 1947, and since that time the nurses assigned there had placed primary emphasis on working with the school of nursing and hospital nursing services.

During the early development of the program in Brazil, when the greatest emphasis was being placed on establishing health services in the Amazon Valley, a great deal was done in the training of visitadoras since there were no graduate nurses available to work in that area. According to latest reports, the visitadoras were continuing to make a real contribution to the improvement in health services.

Sub-Professional Development

The training of all types of sub-professional workers was found to vary greatly from country to country. A 6-month course for visitadoras had been inaugurated at the Colatina Training Center in Brazil,

providing an organized course of study, including demonstrations and supervised practice as well as carefully selected basic information regarding general health teaching. Effort was being made to recruit men as well as women for these courses. A review of material covered in these courses showed that all included personal hygiene, nutrition, maternal and child hygiene, and basic nursing techniques. In most course outlines there was also specific mention of communicable disease and sanitation. It was noted that one course included first aid, cooking, poultry raising and vegetable gardening.

In Bolivia, where efforts to assist with the development of a professional school of nursing had not been successful, the primary emphasis had been shifted to on-the-job training of visitadoras to work out of health centers established by the Servicio.

In Paraguay, where there had been no professional school of nursing, visitadoras were being trained in an 18-month course, started in the health centers operated by the Servicio. The Institute nurses assigned there were assisting in teaching and in planning for the use of these workers, particularly in health centers.

Conclusions

With the trend in some countries toward more comprehensive medical insurance plans and with the development of public health programs, the demands for nursing service will no doubt increase. Renewed efforts will be needed for training a larger group of workers faster. How this can be done most efficiently will require study and experimentation both in methods of training and utilization.

There is no question that the well-trained public health nurse can give a valuable service. In observation of activities in clinics and in making home visits, the approach of the nurse to the patient or family and the way she was received were noteworthy. There could be no doubt that her services were welcomed and that she was genuinely interested in helping the families.

In most countries the only public health nursing service available is that which is provided by the governmental agencies. Although there are still very few public health nurses in relation to total population, there were frequently none before the Servicio program, for example, in Uruguay, Colombia, and Ecuador. In view of the shortage of nurses in public health work, it seems that sometimes not enough thought has been given to using their time to the best advantage.

Since it is doubtful whether there will be, in the foreseeable future, a sufficient number of graduate nurses to provide all the necessary patient care, the Servicio should use all possible methods for more active participation in the training and plans for utilization of all types of auxiliary workers who are employed in hospitals and health centers. It is realized that such activities must be approached with care and diplomacy because of the many factors involved. These include the limitations of the workers themselves, the hesitation or active opposition of the graduate nurses, the distrust of the hospital administrators, and the place of religious orders in the operation of hospitals. In addition to formal courses, it is important that continuous in-service training be given and on-the-job supervision be provided.

It is essential that continued technical assistance, including consultation in nursing service, be provided in organization and operation of agencies and institutions which provide health services. This implies:

Expenditure of Funds.--In some cases funds are needed for construction and repair of hospital or health center buildings and purchase of equipment, particularly in those institutions to be used for teaching purposes and where some control could be maintained by field party staff. When such projects are drawn up, consideration should be given to the relative needs and the practical problems presented in the use of equipment. For example, expensive x-ray equipment cannot be operated effectively unless there is trained personnel to operate it and keep it in repair.

Staff.--Members prepared to render the services must be provided, since hospitals and health centers are only important when they are providing a needed service to the community. It may be necessary for the Servicio actually to employ all or part of the staff or to supplement salaries in order to obtain workers. Such use of funds has proven effective many times and the local administration has been convinced that the paying of adequate salaries has a direct bearing on their ability to attract nursing personnel.

Maintenance of Standards.--Constant attention must be given to maintaining standards for operation and service which are the best possible in the country because a function of the Institute is to provide teaching programs or demonstration projects.

Service Organization.--In addition to assisting in staffing hospitals and health centers it is essential that continuing aid be given in organization of services (to include determination of types and numbers of workers, division and definition of responsibilities and statement of policies as to overall program, dealings with personnel and provisions for changes as indicated); pre-employment training of staff if necessary; and continuing support to in-service training programs for instructional personnel and the staff who give the service.

Technical Collaboration.--In planning for, or operating such projects, it is important that the technical consultants of the Servicios work together for maximum results. For example, the hospital administrator, the sanitary engineer and the nursing consultant can collaborate to great advantage in the planning and operation of hospital or health center services.

NURSING ASSISTANCE IN PLANNING AND CONSTRUCTION

Planning and construction of health centers, hospital-health center units and hospitals have been a large part of the Institute program in some countries. In such projects the available nurses may work with architects and engineers in developing floor plans for the best functional design.

A few examples of failure to use such available technical assistance were noted by the evaluation team. The installation and placement of running water and hand-washing facilities in a hospital are important to adequate patient care and efficient operation, yet in several instances hospital buildings had been completed with only one source of running water to each story in buildings 100 or more feet long.

In one health center the room provided as a nurses' work room had no running water, while the one intended for supervisor's office had a utility sink. After construction was completed it was necessary to change the room even though it meant that the utility room would be extremely crowded.

Another important factor in giving patient care is allowing sufficient space between beds, particularly in communicable disease wards. In one hospital the plan called for eight patients to a ward, which the space allowed would necessitate beds being less than three feet apart.

If the program of the Servicio is being carried out in a real attempt to strengthen the health program of the country, there are very few activities which do not, sooner or later, have some effect on the entire group of technical consultants. For example, as applied to nursing, if a water supply is to be constructed in an area where any public health services are available, it is likely that the public health nurses, or visitadoras with whom the nursing consultant works, will be called upon to explain the project to the families with whom they come in contact; or when public health nursing services are being planned, the sanitary engineers can be helpful in interpreting the specific problems in basic sanitation in the area; and in hospital and health center construction the nurses can interpret the ways in which the design can help or hinder efficient operation.

Even where the Servicio project has been limited to the construction of the

building, the Institute nurses have in many cases been in a position to assist with plans for staffing, and have frequently been given responsibility for training of staff. They have done this by selection of a national nurse or nurses and assisting them with training programs, or by making arrangements for nationals to have special training or experience to prepare them for the job.

IMPORTANCE OF ADVANCED TRAINING

One of the Institute programs has been provision for post graduate study in other countries for individuals who have already had basic training in a professional field. The Institute has assumed complete responsibility for the expense involved in some cases, or has cooperated with other agencies. (For example: The Kellogg Foundation sometimes has been able to furnish the support and tuition for the training period while the Institute furnished transportation.) Nurses from Latin America have come to the United States for work in nursing education, public health, nursing service administration, supervision, and in some of the special fields of nursing.

To the end of 1951, the Institute had assisted with or given grants to cover post graduate study for approximately 100 nurses from Latin America. (See Table No. 2.)

A review of the schools and agencies to which the nurses were sent for training shows that the greatest number have gone to Vanderbilt and Western Reserve Universities; a considerable number have attended the University of North Carolina, and Catholic University; a few others have gone to the Universities of Michigan, Maryland, Johns Hopkins, and Minnesota, and other schools or hospitals in the eastern part of the United States.

Although it is recognized that maintaining contact with faculty to arrange courses, and giving assistance to students would be more difficult and expensive, it would seem that possibilities in other parts of the United States should be explored. For example, there is no record of any nurse being sent to the Universities of California, Colorado or Washington, all of which offer many opportunities for post graduate study and have field practice areas which are well-established and might be able to give training and experience of real value to nurses from Latin America.

As of June, 1952, there were 13 nurses in the United States on Institute fellowship grants. The choice of candidates in some instances had been seriously limited by the inadequacy of basic training in the home country. This makes it difficult for the student to benefit fully from courses taught to advanced students in the United States. Lack of knowledge of English has also been reported as a deterring factor.

In visiting the countries the evaluators endeavored to make contact with nurses who had had the advantages of advanced training. In El Salvador, a nurse who had received a fellowship from the Institute to study nursing education at Catholic University, Washington, D. C. had become the director of nursing service at the Rosales Hospital, where she was accomplishing a great deal. She was also president of the nurses' association and probably responsible for the awakening of interest on the part of the national nurses in building up their own organization. In Chile, there were a number of nurses in positions of responsibility and leadership in nursing education and public health who had had fellowship training. Some of the nurses interviewed had been giving considerable thought to the relative values of training in the various schools in the United States and in some cases felt that the work taken did not have practical application to problems in their countries.

There were only a few instances which indicated that individuals had not been well chosen for fellowships and were not able to use their training to the best advantage. It was found that occasionally trained people were not being used on return from study because no position was available in the field for which they had had special preparation.

Techniques

The evaluators were cognizant of the attention being given to training programs.

TABLE 2.--Number of "out of country" trainees, type and length of course from 1942-1951 inclusive

Country	Total number trainees	Length of course			Type of course				
		Less than 1 year	1 year	3 Years (basic nursing)	Public health nursing	Nursing education	Administration supervision teaching	Clinical specialties	Basic nursing
TOTAL	99	3	80	16	36	8	25	14	16
Bolivia	7	--	6	1	5	1	--	--	1
Brazil	34	1	22	11	14	3	4	2	11
Chile	5	--	5	--	2	1	2	--	--
Colombia	8	--	8	--	2	--	1	5	--
Costa Rica	5	1	4	--	2	2	--	1	--
Dominican Republic	0	--	--	--	--	--	--	--	--
Ecuador	10	--	10	--	2	1	5	2	--
El Salvador	3	--	3	--	--	--	3	--	--
Guatemala	7	--	7	--	2	--	2	3	--
Haiti	1	--	1	--	--	--	--	1	--
Honduras	0	--	--	--	--	--	--	--	--
Mexico	4	--	4	--	--	--	4	--	--
Nicaragua	0	--	--	--	--	--	--	--	--
Panama	0	--	--	--	--	--	--	--	--
Paraguay	1	--	1	--	1	--	--	--	--
Peru	6	--	6	--	2	--	4	--	--
Uruguay	7	--	3	4	3	--	--	--	4
Venezuela	1	1	--	--	1	--	--	--	--

They were inclined to the view, however, that if the small group of workers in the health professions in Latin America is to be expanded to the number necessary for the development of adequate patient care and public health facilities, there would be no better way than to provide nationals who show potentialities for leadership with the background needed to develop their own programs. The following suggestions, it was thought, might be deserving of more thorough exploration:

Adaptation. Experience has shown that bringing to the United States for study in graduate schools individuals who have already completed basic training in their field is a valuable method for accomplishing the objective. In order to insure the greatest degree of success, it is essential that candidates be carefully selected as to ability to carry out a program at a university in a foreign country, that there be, insofar as possible, a specific understanding regarding the position for which they are being prepared, that the course be carefully planned with the university so that the students have an opportunity to take work which will meet their specific needs (whether it meets the requirements of the school for a degree or not); and that the instructional personnel in the host university be informed regarding the national needs for which the candidate is being prepared.

Specially Designed Courses.--The idea of establishing some advanced courses especially for nurses in various Latin American countries should continue to have support. At such a time as it seems feasible, this might be a project in which the Institute could participate. In the meantime, such courses as are available should be used to the greatest possible extent. The course in public health nursing offered in Chile is one which is meeting a real need.

Group Study.--It has been suggested that training might prove to be of greater value if it were possible to work out a plan whereby several nurses would be brought to the same school in the United States for study, and a North American nurse with some knowledge of Latin America assigned to spend full time as advisor and tutor to the group. A variation of this approach might be to explore the possibility of arranging for faculty members from schools in the United States to make visits to Latin America in order to gain better insight into the needs of the students coming to them.

Planned Experience.--Carefully planned and supervised experience might prove more valuable in some instances than organized academic courses. Success of such a plan would be dependent upon the arrangements made in advance being specific as to the kinds of observation and practice needed, and the ability of the institution or agency to furnish the experience and supervision.

Individual Attention.--It must be recognized that the success of any training program, particularly on an advanced level, is largely dependent upon the care and attention with which plans are made for individual students. For best results there should be sufficient staff available in the Washington Office to develop plans for individual students, and to visit them soon after their arrival in this country to assist with problems connected with personal adjustments as well as those connected with the training.

Nurse Status

The evaluators were of the opinion that while specific recommendations for strengthening the position of nursing and for developing national nursing leaders were difficult to outline, recommendation for serious consideration of this necessity was perhaps the most basic one which could be made. Methods proposed included these:

1. Field party determination of the position of the nurse on the staff and the use of her services for consultation by other staff members.

2. Development of ways in which national nurses may be brought into plans for new programs and their opinions sought on activities already in progress.

3. Encouragement of consideration in proper placement of national nurses in positions of increasing responsibility.

4. Consideration of the most effective ratio of nurses to other disciplines in the selection of candidates for fellowship study.

The provision of nursing services to meet the country's needs must be by national nurses themselves and must be one of the major objectives in developing a long range health program.

Associations of professional nurses have been instrumental in Europe and North America in setting standards for nursing education and practice; in establishing the position of nursing as a profession; and in obtaining consideration of economic security programs for nurses. In some Latin American countries professional nursing organizations are already quite well established. In others the nursing profession is so new that the need for organization has only recently begun to be recognized.

In all countries visited, the status of nurses associations was discussed with national nursing leaders and others concerned with providing health services for the people.

In Brazil it was learned that in addition to support in a general way, concrete assistance was being given by the Servicio which pays the salary of the nurse who works part time as executive secretary for the National Nurses Association of Brazil. This association has been organized for many years and maintains membership in the International Council of Nurses.

The Chilean Graduate Nurses Association is an active and rapidly growing group working on standardization of nursing education for the country and at the time of the Survey had been requested by medical and hospital administration groups to assist in setting up training for auxiliary workers in hospitals. The association had applied for membership in the International Council of Nurses.

In Ecuador, where the first class had graduated from the only school of nursing in the country only seven years ago, there was an alumnae association working toward becoming the nurses association for the country.

THE NURSE IN THE WASHINGTON OFFICE

In 1946, it was thought that it would be helpful to have a nurse in the Washington office. Her duties included recruitment of nurses for field parties, consultation on placement and orientation of nurse trainees who came to the United States for study, and handling correspondence from nurses in the field. In 1948, her position was abolished when budget cuts made reduction of force necessary. Following that, there was a period during which nurses from the field were required to spend an additional sixty days in the Washington office when they came home on leave. This, it seemed, had resulted in a great deal of confusion and dissatisfaction in all quarters. In December 1949, the nursing section was established and a nurse who had worked with the Institute in Chile, Ecuador and Mexico, was brought in to fill the position of chief nurse.

The duties of the position were made to include both administration and consultation. The chief nurse became responsible for recruitment and assignment of nurses to field parties; for handling arrangements for scholarship students; for providing consultation to the field (in person and by correspondence); and for representing nursing in central office planning, and interpretation of nursing in Institute programs to other groups.

In the Technical Pool a position for a nurse consultant was vacant at the time of the Survey, while the nurse so assigned was on educational leave. When she was in the field she was stationed in Santiago, Chile, and gave consultation in the countries in South America as requested by the field parties. It was reported by chiefs of party and the nurses that this was very helpful. However, the area was so large and the demand so great that it was not always possible for the nurse to be available when needed.

Under a new organizational plan there was also to be a public health nursing consultant in the Professional Methods and Standards Branch. How this would affect the availability of consultation service and what the relationship of this service to the chief nurse would be, was not clear.

THE NURSE IN THE FIELD

As of January 1, 1952, the Institute had 19 nurses assigned to field parties in 11 countries: One each in Nicaragua, Honduras, Colombia, Peru, Uruguay, Bolivia and Panama; two in Ecuador; four in Brazil; three in Paraguay and three in Mexico. There were no nurses assigned in six countries (Guatemala, Salvador, Costa Rica, Haiti, Chile, and Venezuela). Some of these had requested nurses, and attempts were being made to recruit suitable candidates, difficult because the need as expressed by the chief of party was for individuals with highly specialized preparation.

A nurse assigned to a field party is responsible to the chief for all her activities. Monthly activity reports are made to the chief, who incorporates them in an overall country report which is then forwarded to the Washington office.

The activities of the nurses working on field parties are extremely varied. In most of the countries visited the nurses were found to be active in whatever professional organizations there were. Sometimes, nurses were largely responsible for stimulating the formation of nurses' associations. They had organized public health nursing services in health centers and were training personnel to render these services. They had worked with hospital administrators to improve the services to patients in institutions. They had served as consultants in educational programs for all types of nursing personnel. In a few instances they were serving as directors of schools of nursing.

As seen within the organization of the Institute, it appeared that nurses had a three-fold function: As staff members of the field parties to bring their special knowledge to the overall planning of the programs of the Servicio; to aid in the actual administration of the Servicio operation; and to participate in national nursing activities.

Some Findings

The evaluators agreed that:

In general the Institute has accomplished a great deal in interpreting the need for trained nursing personnel in health programs and, through the Servicio, has demonstrated methods for training and using this personnel.

Some training programs have been effective and well received, but not pursued because the national personnel were not able to continue the courses without further assistance.

Some nurses assigned have not had sufficient background or ability to participate in broad program planning, or to give consultation outside of their individual fields. For instance, sometimes nurses who feel themselves to be "specialized" in public health are unable to give practical understanding to the problem involved in organizing nursing services in hospitals. Sometimes, those who have had most of their experience in nursing education are at a loss when faced with the necessity for assisting with organizing nursing services in a health center. If nurses are to give assistance in drawing up plans for construction of hospital or health center buildings; it is essential that they be able to understand architectural plans and to visualize the effects of the location of rooms and facilities on the nursing service. It appears that in some instances the nurses have not been able to do this, or, perhaps, have been unable to convey their ideas to the architects or engineers.

A Recommendation

Members of the evaluation team concurred in this recommendation: In view of the latitude of the duties and responsibilities of the nurses assigned to Field Parties, it is recommended that the positions for nurses be set up to insure that

nurses assigned have the ability to give consultation service on any level, and are able to plan for organization and administration of nursing service in any field; that they are willing and able to understand and adjust to a culture entirely different from their own; and they are equipped to carry their share of responsibility for good public relations which are an inherent part of assignment to foreign service. It is recognized that the demand for such nurses is great, and that their numbers in the United States are such that they cannot be spared. However, it is believed that as long as the government of the United States maintains a policy of providing technical aid to other countries, only highly prepared individuals should be sent. It is felt to be obvious that neither the Government agencies nor the nursing profession of the United States can afford to be represented by nurses who are not able to carry these responsibilities or who are not capable of developing realistic methods for determining and meeting the needs of a population.

CHAPTER 9.--HEALTH EDUCATION

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HEALTH EDUCATION

During the ten-year period of operation of the Institute there has been a steady growth in awareness of the need for health education. In the beginning, during the emergency situation of the last war, the major emphasis was placed upon doing things to and for people. It was soon realized, however, that the results so obtained were not permanent and therefore were wasteful of both personnel and money. Emphasis was then shifted to planning and carrying out programs with the people. Although this concept of health education is accepted as a basic principle in Institute policy, the evaluators agreed that as yet none of the country programs have become fully effective in securing maximum participation of the people. They felt that much more emphasis should be given to the development of this phase of future as well as existing programs if the goal of "helping people help themselves" is to be achieved.

THE PROGRAM

On the premise that a comprehensive, effective health education program embraces a wide variety of functions, all of which contribute to the overall goal of improved health practices among the people within any certain area, the evaluators grouped these functions into the following broad general categories:

1. Planning the educational phases of programs designed to meet specific health problems of a community.

2. Development of educational skills to carry out the program.

3. Production of educational aids for the use of the people who are working in the program, and as an approach to the recipients of the program.

4. Obtaining community participation in the solution of health problems by securing the cooperation of existing lay and professional organizations, as well as involving those people who are not members of organized groups.

5. Stimulating and maintaining an active interest in the health problems of the community and the action which is being taken for their solution.

This listing of fundamental areas of health education was not to imply that they should be carried on in the order given, nor that they were listed according to priority of importance. At particular times or at specific stages of development, it was recognized that different functions will be given major emphasis. Neither was there implied any rigid standardization of action for all communities. The consideration that programs must be developed to meet the needs and interests of the people concerned was taken fully into account. The list did provide, however, a convenient classification with which to evaluate the scope of programs within any certain area. There follows a summary of appraisal of the programs in each of these phases.

Planning the Educational Phase

Study of the development of the Servicio programs in the several Latin American countries showed that in the beginning practically no consideration was given to the educational phases of the service or action programs. Emphasis was placed on immediate services such as establishing a safe water supply, providing adequate sewage disposal, immunizing a population against diseases, and the building and staffing of preventive and curative medical clinics. These activities were planned with primary consideration for efficiency and effectiveness from the point of view of the technical aspects and capacities of the technical personnel involved. The native conceptions of health, their attitudes and customary health practices were given minor attention.

Later, as it became apparent that people must be informed and willing to practice behaviors conducive to health, if the full advantages of a health program are to be realized, the importance of systematic health education began to be stressed. In the planning that followed, emphasis was focused on direct educational programs

planned as activities to be carried on in addition to a specific service, though not always as part of it. For example, in Chile, the health education personnel assisted other staff members in deciding what knowledge and behavior were desirable. They then organized a program of teaching the information and behavior in terms of the educational levels of the individuals for whom it was designed and according to the number of contacts available to the professional personnel doing the work.

Gradually, in some of the programs, the fact that every health service has an educational influence on the recipient came to be recognized. For example, the way in which a doctor examines a patient, performs an immunization, or a sanitarian inspects a restaurant was being recognized as contributing to education of the people. The effect of the education might be good or bad, depending on the extent to which the recipients' needs were being satisfied.

However, there were seen many places where health activities were being carried on without regard to or recognition of the educational opportunities inherent in the situation. Many informational and motivational chances were being lost in clinics and during other services, simply because the educational potential was not recognized and the activities not planned to result in a favorable educational experience. While an excessively heavy case load was carried by many health personnel, if the educational as well as therapeutic phases of the service had been a part of planning, then the activities would have become more meaningful, and might have resulted in a reduction of readmissions and antagonisms toward the health center.

For example, in one community half a dozen individuals displayed health department prescriptions saying bitterly that "the paper cannot cure." The doctor had prescribed medicines the cost of which was far beyond the reach of the people. A little more attention to the behavioral aspect of the problem during the consultation would have suggested the need for an alternative method of treatment or assistance in securing the additional financial resources and thereby avoided considerable ill will toward the health center. It would have contributed also to a practical solution of the individual's problems.

Some Basic Principles

Members of the evaluation team observed that there still existed among some of the health personnel in the countries, the unfortunate attitude that health education takes place only when teaching is done, and that only the health educator should engage in health education. One such individual said in a large staff meeting that if all staff members were to participate in the health education effort, then sections or divisions of health education might as well be disbanded. There was obvious need for wider acceptance of principles such as these:

Health education will be most effective when all health personnel as well as other groups engaged in educational effort plan for the contribution each can make to meeting the health needs of a community.

Instances were noted in which the overall health program planning had been undertaken by one individual without involving all others who have a part to play if the plan is to be carried out. Such planning, though it may appear to be logical and time saving, seldom results in concerted effort by those who have not had part in developing the plan.

Emphasis in planning should be placed on the ways in which people learn and change their behaviors, rather than on the information the professional people think should be given. One of the outstanding needs in the health education programs in Latin America is more systematic planning in which public health and other professional and technical groups plan the contribution each can make, and then work together in carrying out the plan.

Development of Educational Skills

Possession of technical knowledge, the evaluators agreed, does not insure com-

petence in stimulating learning among others. There is needed in addition an understanding of the factors that influence changes in behavior and the development of better skills in providing learning experiences for people. Certain of these factors and skills were identified as follows:

1. An understanding of the motivational forces for learning.

2. An ability to learn and respect the traditions, social customs and the value systems of people and to find ways in which education programs can fit into them.

3. The skill of stimulating a feeling of need when a problem is not recognized.

4. Competence in stimulating a desire to change.

5. An ability to find ways in which information can be made meaningful.

6. The skill of finding and developing channels of communication.

7. An ability to help people find solutions for their felt problems.

In the programs of a number of countries there was observed a recognition of the need to develop such skills as those listed above. Much of the emphasis, however, had been given to the training of teachers. Projects included correspondence courses for rural elementary teachers in Bolivia, vacation courses in a number of countries, a text book on health education for primary school teachers in Colombia and a five months' course for normal school teachers in Brazil. In the latter country, top priority was being given to in-service training programs. Recently all of the key field personnel had been brought together for a week of intensive orientation on supervision and teamwork in public health. Using a combination of the round table discussion and the workshop approach, and assisted by contributions from a cultural anthropologist, the group of doctors, engineers and nurses had jointly developed a better understanding of how to work together more effectively.

In both Chile and Brazil, health educators had worked with schools of public health toward the end of enriching the curriculum in health education. There was seen urgent need to develop practical field experiences in health education as an integral part of the preparation of public health workers.

In the opinion of the evaluators, much still remains to be done in both pre-service and in-service training in developing an understanding of the learning process and the way in which educational experiences can be made meaningful. One of the biggest challenges to the cooperative programs is to develop methods for applying the latest findings of the social sciences in practical educational programs.

Production of Educational Aids

It appeared to the observers that most of the educational effort in a majority of countries had been devoted to the production of materials and that the tendency had been to make other activities supplementary to them. In the beginning of the health education program, centralized production in Washington of educational materials, for the use of all the countries, was thought to be an economical and effective method for disseminating information. This practice was later abandoned because differences in the culture, customs, language and problems of the people in the various countries made such production impractical.

In many of the countries, however, materials were still being developed at the national level without regard to the needs of the several sections of the country in which they might be used, or the existing differences in culture, customs, literacy or terminology.

Frequently, expensive materials had been produced when perhaps less expensive ones would have served equally well as aids to learning. Even with the emphasis on materials, most of the work apparently had been focused on the production of mass media for informing the general public, with little attention to the development of teaching aids.

There was practically no evidence of an evaluation of the materials developed in terms of what was learned from them. The measures of effort were usually the number of pamphlets distributed, the size of audience on the radio or for movie showings, with no data on the number and kinds of people who had learned anything from the material to which they were exposed. The survey group concurred in these suggestions:

Educational materials should be considered as aids to a cooperative health education program and not as the program itself. More adequate planning of programs in terms of learning, and training personnel in educational procedures should result in the demand for, the production of, and effective use of better educational materials.

Insofar as possible, all educational aids should be pretested through preliminary trial use with representatives of the group for which they are intended before they are finally produced and distributed. Through such pre-testing much time and money may be saved.

Obtaining Community Participation

Opportunity to study at first hand the workings of the cooperative programs gave emphasis to the consideration that only with overall community participation can health programs be successful; that these programs do not operate in a vacuum; and that they are affected by innumberable forces arising from all aspects of Latin American community life.

There was considerable evidence of collaboration by various professional groups. For example, in one State in Brazil a joint committee between health and education authorities had been developing to plan for the overall school-community health program. Similar cooperative arrangements were found at the national level in several of the countries.

There were also some instances in which people of communities worked together to solve health problems. However, in some of these instances, the importance of the community effort had not yet been recognized by the professional health workers. It was apparent that until health personnel should come to understand the importance of having the individuals of communities work together with them on health problems, maximum results would not be achieved from such programs as might be developed.

With a view to their value in extending the limited community work observed in Latin America, the evaluators formulated the following suggestions, based upon experience--tested principles in furthering community participation.

1. A wide variety of social, psychological, educational, cultural, and related factors are to be considered in the planning and establishment of effective health services in any given local area. In a health education program, as in others in the field, functional knowledge of current attitudes, beliefs, customs, traditions, value systems, superstitions, and habits in relation to health and to everyday living as a whole is essential.

2. The expressed felt needs and interests of the people themselves is an important motivating influence for initiating individual, family, and community activities in solving health problems.

3. All communities, no matter how small, have an organizational structure on which to build. However different they may be, there are existing and potential avenues for reaching people which furnish a channel through which to build community participation and cooperation.

4. There is no single and uniform pattern of solving community problems which can be applied everywhere, since problem-solving by communities is essentially a creative process.

5. The creation of opportunities for people from all walks of life to become active partners in community study, planning, and action in matters of health is an important component of health programs.

6. Indigenous problems and practices in health are tied together with many other aspects of total daily living, for example, farming practices, education, recreation,

housing, social welfare, earning a livelihood, etc. Hence, health programs should be integrated with and related to problems, services and resources concerned with the total well being of the individual and the community as a whole.

7. The solution of health problems by a community provides an opportunity for fostering local, individual and group initiative, pride, ownership and responsibility. People are more likely to put into daily practice those learning experiences in which "self initiative" and "self help" are focal points in the education program.

8. A fundamental faith and belief in people and in people's capacity to contribute to the solution of their own problems is a basic essential for effective and lasting health education.

Stimulation and Maintenance of Active Interest

In some of the countries visited, the public relations job had been considered along with the use of mass media, as the most important aspect of health education. In others it had been recognized that a good service program is the best approach to good public relations. It is operation on this latter point of view, that will result in the strongest and most permanent interest and support of community health programs.

ROLE OF THE HEALTH EDUCATORS

Soon after the inauguration of the Institute program, two full time health education consultants were appointed. One was assigned to the Health and Sanitation Division and the other to the Education Division. Shortly afterwards two additional health education consultants were added to the Health and Sanitation Division.

These consultants visited most of the Latin American countries and concluded that the training of personnel was one of the most outstanding needs. Consequently in 1944, personnel were recruited, one from each of a number of countries, and given a year's training in health education at the University of California. It was planned that these people would return to develop health education programs in their respective countries. Due to political changes and the lack of understanding of the role of health education by the national ministries of health, the evaluation team found only a few of these individuals still working in health education.

In recent years a more intensive type of health education consultation had been initiated in three countries, with some limited consultation to others. It appeared that the countries served by full time North American consultants had made the greatest progress in the development of comprehensive health education programs.

Many of the chiefs of field parties indicated a desire to strengthen the health education programs in their countries, but had not had full time technical help to develop programs in terms of the specific needs of the country.

While it is not proposed that there be such a technician in each and every country, it would seem desirable that the Institute, perhaps in cooperation with the Pan American Sanitary Bureau, employ enough qualified professional health educators for at least consultative services from one or the other sources, to all countries.

TYPES OF HEALTH EDUCATORS IN THE FIELD

Great differences were observed in the backgrounds of the health educators at work in the Institute's bilateral programs. Such variation in qualification was to have been expected because of the recent development of professional standards in health education and the conditions prevailing in the respective countries. There follows a general summary of the educational background of personnel working in Latin American health education at the time of the survey.

1. Directors of Health Education, usually functioning on the national level;

2. Doctors or graduates of medicine, with or without specialization or postgraduate degrees in health education;

3. School teachers: (a) With graduate degrees in Education; (b) normal school

graduates; (c) both of preceding, with or without specialized training in health education; (d) normal or high school graduates with or without experience as teachers, but with one year of training in health education;

4. Lay people, with primary school education or less, but with intensive local training of six months or more in specialized family living education.

Despite this great diversity in qualifications there was observed a general feeling in many of the countries that a physician should be the director of the program. This attitude apparently sprang from considering health education in terms only of scientific content, with no regard for competence in educational methods and procedures.

It is doubtful that physicians should be used as directors of health education in the several countries. Because of the shortage of medical personnel, they are badly needed to render medical service and few are skilled as educational practitioners

SOME FINDINGS

Provision of Educators and Consultants

In terms of long range planning, the early selection and training of health educators for the Servicio programs, followed with support of qualified consultants, is highly important. Training of health educators should preferably be given in the language, culture, economic situation, and social environment of the people concerned. To make this possible, the Institute should strengthen those regional institutions in Latin America which show the greatest promise of being able to provide adequately this professional preparation. Such potential centers exist in Puerto Rico, Brazil, Chile and Mexico, and the assistance needed from the Institute might include that of assignment of personnel, purchase of equipment or consultation in curriculum development and field training.

Qualification

The professional health educator should be a university graduate, preferably with a major in education or social science, since there are additional skills needed by the health department to carry on a comprehensive program of health education. The post-graduate degree should be obtained from one of the schools of public health mentioned above.

Fellowships

Following post-graduate training and at least three years of field experience, professional health educators might well be given a fellowship in the United States to observe and participate in regular programs of health education in local or State health departments and in supervision of field training procedures.

Short Term Training

Leaders in the field in each country should have the qualifications described above. However, at present the number of persons qualified for graduate training in many of the countries is so limited that it seems necessary to accept for training, individuals with less than college graduation if current emergency personnel needs are to be met. The survey showed several methods of obtaining the essential people are under way. In Chile, the primary focus was on the preparation of health educators and teachers to work through the schools to the community. In Peru and Brazil, plans were being formulated to train health education auxiliaries who had had primary or secondary education and to assign them to local or district programs to render intensive educational service in the community. These approaches as well as others that may be developed should be considered as experimental methods of meeting today's needs.

In all such experimental approaches, it should be realized that the Latin American countries are making tremendous efforts to raise the educational level of their people. As more and more people become better prepared educationally, these short term training programs will need to be revised accordingly. Otherwise, health education in these countries will be disastrously restricted because a personnel with limited preparation is not equipped to carry out the many complex functions of health education in an advanced society.

RECOMMENDATIONS

1. Greater emphasis should be given by the Institute and Servicio personnel to programs designed to enlist the maximum participation of the people in the solution of their health problems.

2. Prior to the initiation of a project, the Institute should sponsor cultural, sociological and health surveys to determine the resources for community improvement and the barriers to behavioral changes. Social scientists and health educators should work cooperatively with the total health team and related groups in the development of a program in terms of the cultural facts learned. Surveys should be planned for a minimum of three to five years in order to reap the full benefits of such an approach.

3. The educational phase of Servicio programs should be planned jointly at all levels and by all members of the Servicio staff who will be involved.

4. Professional staff should be encouraged to plan programs in terms of the interests and felt needs of the people, rather than in terms of professional opinion of what people need.

5. Provision should be made for the staff at the Washington Servicio, national and local levels to become increasingly proficient in recognizing the potentialities for education in the situations they encounter and in the methods by which the maximum use may be made of every educational opportunity.

6. In so far as possible, all health education materials should be designed to meet specific local needs and should be pre-tested with representatives of the audience for which they are intended before they are produced.

7. All personnel who are given training in health education should have adequate supervised field experience before they are assigned to work as regular staff members of a health department.

8. The academic and field experience of health education trainees sent to the United States should be carefully planned in order that the specific needs of the trainees may be more fully met.

9. The Institute should assist in strengthening the health education facilities in the existing schools of public health in Puerto Rico, Chile, Brazil and Mexico. Such assistance might include assignment of personnel to participate in curriculum planning, teaching demonstrations and supervision of field training.

10. The Institute should assist in obtaining Spanish and Portuguese translations of articles and text books which will aid in pre-service and in-service training of health education personnel.

11. Minimum qualifications of basic health education training and experience should be established for North Americans who are recruited to work in Latin American countries.

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HOSPITALS AND HEALTH CENTERS

INTRODUCTORY STATEMENT

Health and medical services in their broad definition include diagnostic and curative services as well as measures for prevention and for rehabilitation. These services over the years have been supplied in the home, in the physician's office, in the clinic and in the hospital, as well as in related institutions. Emphasis has been directed toward the individual and his family as well as on a more collective community and national basis, involving the control of environmental factors detrimental to health, such as sanitation; disease vector control; and, more recently, encouragement of better health habits with regard to working conditions, nutrition and general health. Services have included widespread vaccination against disease as well as isolation and quarantine measures. Continuing education and research efforts are vital to sustained programs in the field of health and medical services.

The extent of coverage, scope and effectiveness of health and medical services depends on many factors, including scientific knowledge, the development of effective methods of practice and the application of new techniques and procedures. It depends upon the availability of special skills, facilities and supplies. Demand and use are greatly affected by cost and the ability of individuals or others to meet the cost. Utilization is greatly affected by social customs and the health consciousness of people to want and utilize services. Health services for the individual and the community require approval and daily cooperation of those they would benefit. It is the history of health and medical services that they have required joint effort by government at various levels and by voluntary philanthropic groups and individuals.

Health, medical and hospital services cannot be viewed alone. Appraisal must include a knowledge of the economic, social and educational characteristics of the people concerned. These services must be considered in the light of essential vital statistics pertaining to causes of death and morbidity. Environmental conditions and customs must be studied as well as geographical conditions which pertain to disease and ill health. History has revealed distinct relationships between poverty and disease and the effect of disease upon the progress and economy of nations.

Any individual or cooperative attempt to strengthen the health and medical services of a community or nation must be made with adequate consideration to the foregoing. Exercising a helpful, cooperative attitude, a friendly neighbor nation can do much toward strengthening indigenous health services through partial financial aid, advice, in providing training opportunities and in planning the full development and execution of a carefully selected group of projects which will serve as demonstrations of what a community or nation can do for itself. To quote Sir George Newman in Building of a Nation's Health: "The long-range health program should build for the future without undue intervention with local autonomy, viewing both central and local problems as parts of one whole. Such a program should be a means rather than an end, an improvement in the machinery of government. It cannot be a substitute for medical science or local authority, or for voluntary enterprise, nor even for that impulse of public assent without which all instruments of government will prove useless."

I. HOSPITAL SERVICES

The modern role of the hospital includes in-patient and out-patient diagnosis and care aimed at the rapid cure of disease or disability and the utilization of procedures to effect as prompt and complete rehabilitation as possible, together with the application of preventive measures for the maintenance of health.

Modern medicine designates the hospital as an educational institution for the training of physicians, nurses and auxiliary workers in the health and social fields.

The potentialities of the hospital as a place for research in medicine, health and the social sciences are being more widely recognized.

ELEMENTS OF THE PROBLEM

Any evaluation of hospital progress in Latin America must give weight and consideration to a number of existing situations and factors which have influenced the development of the required services.

Economic Grouping and Political Factors

Historically, Latin America, unlike the United States, has had two main economic groups, the very rich and the very poor, and as a result a large proportion of the population can be considered medically indigent with regard to ability to meet their health and medical care costs on an individual basis. Perhaps this may have had influence on the early adoption of social legislation in most of the Latin American countries, including compulsory health insurance. In most Latin American countries this economic grouping of the population has undoubtedly led to a greater degree of reliance on national funds for the support of hospital services than is customary in the United States.

In countries such as Ecuador, Servicio emphasis at the start of the program was directed primarily toward physical structures, representing visual evidence of health progress, without sufficient stress on arrangements for equipment, staffing and financial support of these institutions.

Unsettled central government organization also appeared to have a detrimental effect upon sound development of hospital services. This was noted in Paraguay where the Ministry of Health was operating the majority of the hospitals in the country. A newly created social insurance agency was building a system of hospitals for its beneficiaries with frequent uneconomical duplication. At the same time the Ministry of Health hospital system did not appear to be in a position to maintain the standards of a Servicio-built hospital. It was reported in Brazil that the chain of hospitals built in the San Francisco Valley, which the Servicio was being asked to take over, lacked many desirable features as to accessible location and layout since they were built under national and local circumstances that did not provide for the usual required preliminary planning.

Need for Long Range Planning

Hospital service is but one of the elements in the broad structure of health services, although in dollar expenditures for health, in most countries, it receives much greater emphasis than general public health, and sanitation services. Hospital service must be reviewed critically with regard to long-range possibilities of greater emphasis upon and support of the preventable disease services. The existence of high morbidity and mortality rates in many of the Latin American countries for diseases such as tuberculosis, the dysenteries and malaria, present situations that have profound influence on the demand for hospital beds and on the general social and economic welfare. Sound planning for hospital services and health services generally requires careful consideration of all these factors.

The Beneficencia

During the early history of the Latin American countries, the church played a dominant role in the provision of hospital service and exercised its charity with the aid of land grants and other property holdings. With the trend toward greater separation of the church and state, these property holdings were turned over to a board of charity, the Junta de Beneficencia. These Beneficencia (welfare boards) are made up of prominent, wealthy citizens, men and women. They have large but not always ample resources and quasi-independent status. They have been developed in the major cities, for example: in Peru in 1926; in Chile in 1932; and in Buenos Aires in 1923, the latter "to bring women into public life through the gifts of charity." The funds expended have been from many sources--income from property holdings, government tax funds and also, in some instances, returns from lotteries. Under these auspices the hospital system was expanded and improved with the advice, assistance and supervision of public-minded citizens of the upper social classes.

With the increasing public demand for hospital care, the financial resources of

these boards were overtaxed and government was called upon to make increasing contributions from tax funds. The mechanism of lotteries was instituted, with the proceeds going toward the cost of hospital care and other needed services. Government responsibility for support has led increasingly to government supervision and control. This situation varies from country to country. In Chile, for example, the 1951 budget for the Junta de Beneficencia hospital program totaled two billion pesos, of which 1.2 billion pesos came from the national government and 0.8 billion from the income of Beneficencia properties.

Social Insurance

Within more recent years, social insurance, for the payment of hospital services for the workers, including both voluntary and compulsory arrangements, has had increasing emphasis and rapid development. This chance has brought about a greater personal responsibility by the individual for meeting the costs of his hospital care. It has also resulted in the construction and operation of hospitals by a new interest, the insurance fund. One of the most modern and well-operated hospitals seen in Latin America was at Lima, Peru, constructed, built and operated by the workers' insurance fund (segura obrera). This fund was also operating 12 other hospitals in Peru, and plans were under way for a hospital expansion program which would approximately double its operations.

In 1950, the largest Chilean compulsory health insurance fund for the workers hospitalized 100,000 of its patients in the Beneficencia hospitals, for a total of 2,000,000 patient days of care. Uruguay had no compulsory hospital and medical insurance under its social security program. Nevertheless almost 400,000 persons in the City of Montevideo, or approximately 50 percent of the population, has some form of coverage for benefits under voluntary health insurance societies. Many of these were operating their own hospitals or paying for care for their beneficiaries at hospitals operated by the Ministry of Health, or at private institutions. The maldistribution and frequent shortage of hospital facilities and services often made it impossible for these funds to provide the scope and quality of service promised under the social security programs. Social security progress in the field of hospital care, however, was seen as highly significant, resulting not only in the introduction of numerous third-party arrang ments, but also in a greater personal responsibility for hospital care than existed in previous decades.

Geographic Factors

Certain geographical factors with their implications of furthering special disease entities and the less accentuated tempo of life in tropical and sub-tropical climates have undoubtedly led to delays in providing modern hospital services. Many of the countries with large areas of sparse population could not be expected to provide hospital services readily available to all their people, and this undoubtedly has accounted for much of the maldistribution of facilities and personnel. The excessive hospital care load, resulting from the generally lowered health conditions in many areas, and the high incidence of endemic and epidemic diseases, many correctable by recognized public health techniques and practices, including water supply, sewage, food protection and disease vector control, have undoubtedly delayed developments because of the heavy expense involved and the lack of trained personnel.

Lack of Facilities and Personnel

Progress in many areas has undoubtedly been slow because of the lack of organized and adequately staffed public health units in many areas, and the centralization in the major capital cities of responsibility at the national level. All through Latin America a high proportion of the hospitals are of the large pavilion type, and many are obsolete or nearing obsolescence. There are extensive areas of many countries, particularly those remote from the large centers of population, which have no suitable hospital facilities. There is a lack as well as maldistribution of personnel such as hospital administrators, nurses

and physicians, including specialists. Adequate arrangements have not been provided in most countries for a full-time career, with adequate salaries, for the doctors and administrators in the hospital service field.

Generally, there is a lack of funds for required new construction or replacement of hospital facilities or for adequate budgets for hospital operation at modern levels.

Incidence of Disease

The situation is aggravated by the high incidence of disease and other conditions requiring hospital care and reflects the high average patient stay in hospitals. Economic implications hamper the proper use of known specific drugs and procedures which would shorten patient stay. The problem is further complicated, as it is in many parts of the world, by the tendency of the people to be more receptive to remedial care than to preventive measures.

Summary

The problem, therefore, would appear to involve:

Provision for economic support of required services;

Positive measures in the field of public health and sanitation to decrease the demand for hospital services, particularly in the field of intestinal diseases and tuberculosis.

Training of required medical, nursing, administrative and auxiliary personnel.

Development of a broad health program which would bring about a unification of the many health and medical service units under a comprehensive planning and administrative unit operating at local as well as central levels of the government.

The organizational philosophies and structures of the United States may not necessarily be adaptable to the Latin American situation, and any cooperative effort should recognize these local factors and allow for the establishment of new and carefully studied experiments.

FIELD STUDY OBSERVATIONS

Hospital service in Latin America as in other parts of the world, has usually followed the local and national pace of economic and social progress. Usually the most modern hospitals rendering the highest quality of care, are found predominantly in the more highly developed countries and in the capitals and other large urban centers. This was exemplified in rural Uruguay where there was reported a ratio of 5.92 hospital beds of all types per thousand population and a ratio of 12.67 beds of all types per thousand population in the City of Montevideo. In Brazil, available figures showed a low average ratio of only 1.8 hospital beds of all types for each thousand of inhabitants. While the federal district of Rio de Janeiro had approximately 5.7 beds per thousand population, the rural State of Goyaz had only 0.6 beds per thousand population.

Figures on medical personnel, so necessary for adequate hospital service, also revealed somewhat similar relationships between availability and economic and social progress. In Brazil, the cities with 14 percent of the population had 61 percent of the physicians, while the remote interior areas with 86 percent of the population had only 38 percent of the physicians.

Governmental support required for hospital services was likewise greater in the undeveloped and economically depressed countries, and even in backward areas in the more progressive and economically secure countries, than in the more highly developed centers. For example, while the large majority of hospitals in Ecuador, Paraguay and El Salvador were being maintained by the government, the largest proportion of private support was in the capital cities of the countries.

Customs and Mores

The effect of social customs and mores, including class differences, was noted as

an important factor on both the extent of demand for, and patient reaction to, the local hospital service. The existence of a growing middle class appeared to have a beneficial effect upon modern hospital developments.

Progress and Deficiencies

The evaluation team had opportunity of observing many of the effects of the growth and development of hospital services in several of the Latin American countries. Observations in the large urban centers, as well as in rural areas, revealed desirable achievements as well as many deficiencies. The disparity that occurs between urban and rural sections of North America in the organization and proficiency of hospital services was similarly noted in Latin America but with greater extremes as to deficiencies. A number of the capital cities and other large centers of the latter presented evidence of desirable growth and development of hospital services, both as to scope and quality.

In general, there were better hospitals with higher standards where greater emphasis had been placed upon nongovernmental cooperation, philanthropy and patient contribution through insurance or otherwise, than where the operation was primarily one of central government. The more desirable developments were seen in the urban areas of the more economically secure countries. As compared with the greater degree of federal management in the more backward areas, more representative citizen participation, through the Junta de Beneficencia, the segura obrera and the other local organizations in hospital planning and operation, was evident in the better hospitals and in the more progressive cities.

National hospital organizations of the nature of the American Hospital Association are scarce in Latin America. This lack of hospital organization nationally has been a major handicap in attempts to establish an effective Inter-American Hospital Association. It is recommended that the Servicios pay particular attention to encouraging the formation of such organizations.

Physical Facilities

From the standpoint of the number of hospital beds, the physical facilities for hospital care in most Latin American countries were found to be far short of modern accepted standards. The need for additional hospital facilities was particularly acute in rural areas, especially as to beds for tuberculosis, chronic and psychiatric care.

Throughout Latin America, some excellent, well-designed, modern hospitals were observed, such as the Segura Obrera Hospital and the new Tuberculosis Hospital, both in Lima, and the Servicio-constructed Tuberculosis Sanatorium at Santiago. There were others in large urban centers. The majority of the hospital plants, however, were predominantly old and obsolete. They lacked adequate central services required for modern diagnosis and therapy and, in many instances, were of such large size that administration was difficult and the potentialities of a smaller hospital for personalized individual patient attention were lost.

Hospital Planning

These basic considerations entered into evaluation in this area:

Hospital planning has importance at the national, regional and community levels.

It has importance in relation to social, cultural and economic factors of the national and community life.

It has importance in relation to the overall health services of the country.

It is essential in relation to the location, design, staffing, administration and financial support of the individual hospital.

Adequate hospital planning implies arrangements both for effective distribution of medical skills, and for training programs and personnel practices essential to efficient and effective hospital service.

Several countries, notably Chile, were found to have developed national hospital

planning programs. Other countries had recognized this need and appeared interested. In Chile, planning had included an inventory of available hospital assets, the needs for expansion and the construction of new hospitals, and the replacement of modernization of others. Legislation had been proposed for the fusion of preventive and curative services, including the cooperative effort of all agencies concerned with hospital service at the federal level and, through the development of a regional approach, a coordination of hospital administration activities and financial support embracing the numerous interests, governmental and voluntary, at national, regional and local levels.

The development of hospital insurance programs had accentuated the importance of national hospital planning in order to secure the beneficial effects of joint private and governmental interest and support. There appeared to be need and opportunity in many countries to profit by the techniques and procedures under way in Chile, and to a lesser extent in Peru, Uruguay and Brazil.

Hospital Operation and Administration

Two fundamentals entered into the evaluation of hospital operation and administration:

1. Unless it is subject to good administration, the best hospital plant cannot give good or economical service.

2. A national hospital system cannot make its greatest contribution unless the administrative policy and direction are sound.

It was found to be generally true that while the national administration of hospital services was usually within a Ministry of Health, it was seldom supervised by the director of a country's health service. Hospital administration at the national level frequently presented the characteristics of bureaucratic governmental organization. Frequently, the financial demands for the operation of the hospital system appeared subject to factors inherent in the national economy which had limited budgets required for personnel, food supplies, drugs and equipment, plant maintenance, plant replacement or plant expansion. Frequently, budgets for individual hospitals had been approved without respect to scope, quality and volume of service, and with little or no supervision over the actual hospital expenditures. This was particularly noticeable in El Salvador, and in Ecuador and Peru. The uncertainty of annual income from the Junta de Beneficencia properties frequently had led to limitation of service, for example, the withholding of expensive drugs such as antibiotics, and the actual closing down of service, as in Chile.

Level of Administration. Throughout Latin America, particularly in the larger cities, there were evidences of the value of assigning hospital administration to competent individuals. Such instances were rare, however, and much was needed to achieve better planning, organization and operation of hospitals and to improve attitudes toward the care of the sick. The administration of the Segura Obrera Hospital at Lima, Peru, would compare favorably with that of any North American institution. This was also true of the Tuberculosis Sanatorium at Lima. The work of the Kellogg-trained director of the St. Vincent de Paul University Teaching Hospital at Santiago was another excellent example of what can be accomplished from the standpoint of economy of hospital operation. Modern hospital administration, however, was generally far from the rule. Administration was usually in the hands of a practicing physician who would spend a few hours or less at the hospital each day. Hospital administration followed no orderly pattern and employed few recognized accepted procedures or standards. With improved hospital administration and management more universally adopted, the evaluators agreed that more and better patient care would be rendered for the moneys now being spent.

Hospital Staffing and Medical Services

The maldistribution of physicians between urban and rural areas which exists

in North American and other sections of the world was also noted in Latin America. In practically all countries, the large cities were considered to be in a very favorable position, whereas the smaller urban and rural areas were badly in need of additional physicians. The development of specialties was still primarily confined to the large cities, while in other areas physicians more or less carried out a free lance policy and not the teamwork approach to the patient so frequently required in the over-all care of illness. There were examples of excellent medical staff organization, such as the medical service of the San Salvador Hospital in Santiago. Here the staff organization arrangements were excellent and undergraduate, intern and residency training programs were well supervised. Clinical research had also attained a very high degree of emphasis. This was also true of the Tuberculosis Hospital, the Women's Beneficencia Hospital and the Segura Obrera Hospital at Lima and of some of the other hospitals in the larger cities. However, medical staffing arrangements in most hospitals and particularly in the more remote areas was extremely bad--even at some of the medical teaching hospitals. There was evidently a lack of staff organization and frequently each service had its own operating suite and out-patient department. Generally, physicians were employed in large numbers, almost always on a part-time basis, but under conditions which were not conducive to proper interest in the patient. This situation was aggravated by inadequate hospital budgets which prevented the employment of needed diagnostic and treatment procedures.

The widespread practice of the use of midwives, in many instances with unsatisfactory training, had affected the obstetrical service of most of the hospitals, where physicians were expected to supervise the midwives but to do very little actual work. Many treatment facilities, such as the popular use of injections, were delegated to on-the-job trainees.

Many physicians would hold several part-time salaried jobs, usually with government. In fact, it was estimated that in Chile, 95 percent of the physicians in practice were holding one or more government part-time salaried positions which, in general, paid an extremely low rate of income and required supplementation by private practice. In view of these situations, many countries, particularly Chile, were recognizing the desirability of full-time salaried positions at income levels commensurate with a professional livelihood.

Medical Education

In many sections throughout Latin America, medical education, basic to good medical care, appeared to need major improvement in course content, clinical supervision and greater emphasis on basic medical sciencies, preventive medicine and public health and human ecology. The medical schools were usually placing little emphasis on human ecology and the vital role of the individual physician in the over-all economic and social welfare of the entire community.

Nursing Services

The role of professional nursing was only beginning to be recognized to any great degree. Many large hospitals were operated without a single graduate nurse. Bedside and other nursing duties were being carried out in a haphazard and often indifferent manner by individuals with little or no formal training other than that acquired on the job.

Out-Patient Services

While instances of good out-patient clinic services were observed in several of the Latin American countries, primarily in the large cities, ambulatory out-patient services were not usually well organized. Clinics were usually crowded and lacking in sufficient medical and nursing staff. There was a tendency to look upon them as emergency, charitable services, with little appreciation of or connection with the home or other health and social agencies in the community. However, many of the health insurance programs and medical teaching hospitals

had been made to include good dispensary service for medical care beneficiaries and in some areas actual medical care in the home. It was observed that in most countries, with the specific exception of Uruguay, where health centers had been developed, the medical care clinic service played a major role in the units of work performed and was extremely popular with those patronizing the health center. The health centers were actually acting as loci for public health preventive work, sanitation, etc., and also for the ambulatory out-patient services which would normally be expected of a community hospital.

Laboratory Services

While a number of hospitals, particularly medical teaching institutions, such as the San Salvador Hospital in Santiago, the Segura Obrera Hospital at Lima, and the several other large hospitals, were found to have a policy of routine laboratory examinations on all patients entering the hospital and to include a wide range of indicated clinical laboratory and pathology services, many hospitals were observed where the service was limited both in scope and volume. Frequently, particularly in El Salvador and in the back country of Paraguay and Ecuador, there was considerable need for improvement. Laboratory work was often performed by individuals with little basic education or formal training and often lacked adequate medical supervision.

Patient Care

Members of the survey team were constantly impressed with the fact that for understanding of hospital care of the patient in Latin America, some of the local philosophies and beliefs, as well as the development of the whole society, must be appreciated.

In the more under developed countries, the main bulk of the patients on the wards of the hospitals were free-care patients. Patients in higher income and social brackets tended to go to the United States for treatment for serious illness, or to be cared for in private hospitals, usually operated by physicians, occasionally by groups of other nationals.

In the more progressive countries with greater monetary resources and an increasing middle-class population, different situations were encountered in the capitals and larger centers. For example, in Lima, Peru, in addition to those workers who budgeted for their hospital care under the health insurance fund, approximately ten percent of the patients patronizing the Beneficencia hospitals paid for their care. In addition, there were a large number of private institutions for pay-patient care which were well patronized. In the 1,100-bed university teaching hospital at Santiago, about one-third of the patients paid through the operation of various insurance funds, one-third paid individually, in part or in full, and the remaining one-third were free-care patients. Under competent administration, the percentage of patients paying in part or in full had greatly increased during a two-year period following the institution of a social service interview. In contrast to this situation, the 500-bed regional general hospital at Talca reported that only 17 percent of the hospital income was secured from the workers' insurance fund, three percent from private patients, ten percent from part-pay patients. The remaining 70 percent was in the form of charity or tax-supported revenue of the Beneficencia or the government.

Patient Costs.--It was not possible, because of the limitations of time and the lack of available statistics, to make a comparison of hospital costs per patient-day by country. Further, there was variation in the number of personnel employed, the presence or absence of adequate nursing service. The quality of food, drugs and supplies varied, particularly as between rural and urban areas, and also as between countries. Exchange values and existing inflationary situations in several of the countries prohibited this type of an analysis.

It was noted, however, that the cost per patient-day at the university teaching hospital in Chile was approximately $3.50. In Brazil, the hospital division of the

Ministry of Health was inclined to grade the efficiency of the hospital by the costs per patient-day. In general, the social security institute-operated hospitals were considered of good quality. They had a cost of approximately $9.00 per day, whereas some general hospitals had patient-day costs of approximately $3.00. It appeared that when a patient, either through insurance or otherwise, was providing a contribution toward his hospital care, the care tended to be of better quality.

Grouping.--In most Latin American countries there was evidence of a tendency to develop specialty hospitals for infectious diseases, tuberculosis care, the care of children, as well as for mental disease care. In outlying rural and small urban hospitals, however, there were instances in which patients in all categories would be grouped in the same hospital. In one locality patients with tuberculosis, typhoid fever, hypertension and alcoholic psychoses were seen on the same ward without segregation. The tendency was toward the creation of large wards of 50 to 60 beds.

Except in the larger, more progressive hospitals, nurseries for the new-born were not the rule. Babies were cared for in the mothers' beds or in bassinets at the bedside. At the university teaching hospital at San Salvador, half of the obstetrical beds had two mothers and two babies in each. Breast feeding predominated. Outside of the major cities, little attention was paid to special dietary measures or techniques.

Housekeeping.--Except in the better institutions, food preparation and general housekeeping were found to be uniformly poor, although many hospitals maintained reasonable cleanliness despite the obsolescence of the plant.

Drugs.--In general, the more newly accepted drugs were available in the hospitals visited, both in urban and rural areas. However, while there appeared to be no evidence of withholding necessary drugs in hospitals in Santiago, Lima, Montevideo, Rio de Janeiro and other large cities, many hospitals were visited where the patients did not have the needed drugs unless they were able to pay. This was particularly noticeable in the Servicio-built hospital operated by the provincial department of health at Quito, Ecuador, where typhus fever and typhoid patients were seen who were not receiving the indicated antibiotics because of the patient's inability to pay. The superintendent recognized the short-sightedness of this policy by citing this experience: with chloromycetin the average stay was four to five days with no mortality. Without chloromycetin the stay averaged four weeks with a seven percent mortality.

Similar situations were seen throughout Paraguay, at the Talca and Temuco hospitals in Chile, at the Infectious Disease Hospital at Quito, at Santa Tecla Hospital in San Salvador, at the Ricbamba Hospital in Ecuador, and to a lesser extent at the Servicio Hospital in Iquitos, Peru.

The change from the old to the new was observable on visits to the pharmacies of the individual hospitals. In many institutions the old empiric drugs were still in their fancy jars, but a review of the shelves and refrigerators showed the modern trend toward more specific and effective therapies.

Duration of Stay.--Comparison of Latin American with North American standards of patient stay in hospitals was frequently difficult because of the inclusion of the care of tuberculosis cases in the general hospitals. Even in the larger medical centers the stay was considerably higher than the average in the United States. However, the introduction of trained administrators seemed to have had a beneficial effect on patient turnover. Under good management the patient stay at the univeristy teaching hospital in Chile had been lowered from 26 days in 1946 to 16 days in 1951. Reduction was also noted at the Luis Vernaza Hospital in Guayaquil.

There was considerable evidence in most of the hospitals visited that more effective use of the hospital beds could be made with improvement in administrative,

medical, nursing and therapeutic techniques.

Hospital Records

Basic considerations were these: Hospital records are necessary for a proper evaluation of the individual patient's care and progress; they are necessary as basic information for good hospital administration; from the standpoint of national supervision and for an equitable distribution of various sources of financial support, hospital statistics are indispensable.

Good hospital records were seen at many of the larger institutions, but in general, observations revealed that considerable improvement was needed. It was demonstrated that the need for accurate patient records and good uniform hospital statistics assumes greater importance as so-called third party interests enter the field of hospital care in the form of health insurance funds and other sources of hospital support. In El Salvador, where practically all of the hospitals are supported by the Ministry, it was noted that the distribution of national tax funds toward the budgets of the individual hospitals was handled in a loose, unbusinesslike manner. To remedy this, a hospital division in the Ministry of Health was in process of being organized.

Special Hospital Problems

Special disease entities in Latin American countries were found to be reflected in specific hospital problems. Tuberculosis, one of the major causes of death in most of the countries, presented an acute problem with regard to control measures, including hospital care. With the exception of Uruguay, all of the countries visited had an extreme shortage of tuberculosis hospital beds. The gravity of this situation has been indicated by reported tuberculosis mortality rates. For example, in Chile figures reported have run as high as 450 deaths per 100,000 population a year, although at the time of the survey the general agreement among public health authorities was that it was in the neighborhood of 250 deaths. Brazil reported a rate of 300, and in many countries, because of factors of poor reporting, the incidence of tuberculosis had been considered higher than the published figures.

The incidence of leprosy in many Latin American countries, particularly in the more tropical regions, presented special hospital facility and administrative problems as well as unsolved situations of social and economic significance.

Infectious Diseases.--While the tendency in most Latin American countries had been to establish isolation or infectious disease hospitals, particularly in the larger cities, there was found an intermingling of these patients on the wards of general hospitals, particularly in the rural and small urban areas. The high incidence of infectious diseases in many of the countries pointed to the need for strengthening local public health and sanitation programs to lower the incidence of contagious diseases and thereby decrease the demand for hospital beds. This need for wider control measures for contagious diseases was noted in both the rural areas and the large capital cities. The new, excellently operated and staffed infectious disease hospital in Santiago had an extremely high census of typhoid cases. A review of the high case load of venereal diseases at the San Juan de Dios Hospital at Quito indicated possible savings in hospital costs if adequate antibiotic therapy and other control measures were practiced by the venereal disease clinic in that city. A visit to the clinic revealed that only about ten percent of the venereal disease cases treated received penicillin therapy, and this despite the fact that this clinic was supervising the health of 1,089 registered prostitutes.

Mental Disease Care.--A review of the mental hospital situation in the countries visited showed a generally backward situation with regard to mental hospital care. This was somewhat to have been expected in view of economic problems and the largely unfulfilled need for hospital service for other types of illness.

A Conclusion

The national and local budgets for hospital service in all of the Latin American

countries represent the major portion of the total health budget. Frequently, expenditures for hospital service are many times the amount expended for organized public health preventive services. The demand for hospital and medical care is large, loud and continuous. Unless this demand is met with a judicious appraisal of the interrelationships in relative weights of the two services, the progress of badly needed preventive public health work may be impeded and the ultimate health and economy of the people adversely affected.

THE INSTITUTE'S APPROACH

Summarized, the following were findings and considerations which the evaluation team advanced in its study of the hospital service aspects of the cooperative program of the Institute of Inter-American Affairs.

Contrasts, North and South

In the United States, while the federal government has responsibility for the construction, operation and maintenance of specialized hospitals for the military forces, veterans, merchant seamen and others, the major responsibility rests with the local municipalities or on a community basis. It is true that in the fields of tuberculosis and mental hospital care the states play the major role on a tax-supported basis. The larger percentage of general hospital care is a community responsibility, organized and maintained primarily by voluntary, non-profit organizations composed of public-spirited individuals in the community.

In most of the Latin American countries, on the contrary, with the notable exception of Brazil, hospital service organization, administration and supervision is at the national level. With the development of social security and compulsory health insurance, new interests are being brought into the hospital service field. So far, even this organization and administration is centralized at the national level.

In Peru, for example, the Junta de Beneficencia, under national administration, was at the time of the survey operating 151 hospitals of all types, providing 16,778 beds. Sixty-six hospitals with a capacity of 9,853 beds were being operated by the Beneficencia with government support. The Segura Social or social security corporation for workers was operating 12 hospitals with 1,927 beds, and had hospital expansion plans aimed to double this figure. The Ministry of Health through the Public Health Service was operating 12 hospitals with a total of 2,179 beds covering service in the field of tuberculosis care, children's service, cancer, malaria and infectious diseases. Corporations, primarily isolated mining and petroleum interests, were operating 30 hospitals, each of relatively small size, totaling 843 beds. Private hospitals, operated in the main by practicing physicians, accounted for 17 hospitals with a total of 477 beds. There were four hospitals operated by nationals of other countries, with a total of 287 beds. The Army operated two institutions with 512 beds; the Navy, one hospital with 147 beds; and the police, one hospital with 276 beds. At Chimbote and in the remote areas of the Loreto Province in the Amazon Basin, the Servicio was operating six hospitals with a total bed capacity of 277.

Effects of Social Security Legislation.--In most countries with social security health legislation, a new system of hospitals was being developed by these interests, in contrast to the United States where voluntary health insurance almost entirely purchases hospital care for its subscribers from the existing local municipal or voluntary nonprofit institutions.

It may therefore be said that in the United States, hospital care in the community is primarily a local responsibility on a free enterprise basis, with each hospital responsible for its own budget, management, training and staffing, in contrast with Latin America where, in most instances, there is very little local citizen participation or control. This has had a decided effect upon the approach used in the cooperative program.

Wartime Influences

The program of the Institute had its initiation during the period of World War

II. The emergency had much to do with the approach to the cooperative program, especially in the early days of the war. Many of the projects of the cooperative program, developed under titles other than hospital construction or operation, were later to have outstandingly beneficial effects. In meeting problems of hospital care, for example, the development of nursing schools and other training programs, sanitation and special disease control projects, were greatly to reduce the need for hospital care. Public health education, leading to better utilization and appreciation of modern hospital services, was also advanced by wartime measures.

Effect on the Servicios.--The emergencies of World War II were, therefore, to have direct and indirect effects upon the approach utilized by the various Servicios in meeting the problem of hospital care. They may account for the reasons that negotiations with regard to hospital projects were primarily at the national level and frequently failed to take advantage of community leadership, participation and support. They may also account for the emphasis on the development of hospital services in such areas as the Amazon Valley in Brazil, the Loreto Province of Peru and the fairly comprehensive hospital developments in all sections of Ecuador. They may also account for the seeming imbalance between countries, and the emphasis placed on hospital services in relation to other public health and sanitation projects. These factors may also account in large measure for the great proportion of effort during the early days of the program toward the construction of hospital facilities and the failure, in most instances, to develop nationwide appraisals of the relative long-range health potential of projects prior to initiation.

Elements Involved

The approach to hospital service development under the Institute's cooperative program may be divided into two major elements:

1. Demonstration projects in modern hospital contruction, equipment and service.

2. A service approach to fill as completely as possible the gaps in hospital services in a particular country.

The first is well exemplified by such projects as the tuberculosis hospitals at Santiago and Asuncion and the maternity hospitals at Quito and Guayaquil.

The service approach is illustrated by the system of hospitals developed and operated by the Servicio in the Loreto Province of Peru, by an extensive system of hospital construction in Ecuador and, to a lesser extent, in San Salvador; and by an extensive program of rural hospital construction, operation and maintenance in Brazil. These have been well coupled with health center and sanitation projects and fixed and itinerant medical dispensary and sanitation services.

The project for joint public health and hospital administration training in Santiago, Chile, is an excellent example of a long-range method of improving hospital services throughout a country. Encouragement in the development of hospital statistics, inspection and planning in Uruguay carries the same worthwhile implications.

Institutes on hospital administration such as have been conducted jointly by the Institute and the Pan American Sanitary Bureau in cooperation with local governments, offer a tested means for work in this direction. From 1944 to the time of the survey three such institutes had been held, in Mexico City, Lima, and Rio de Janeiro, with another reported as scheduled for 1953, in Montevideo. Reports from the institutes held had been uniformly favorable, and members of the survey team had gathered the impression that they had contributed materially in bringing about better understanding of what hospital administration really should be. It is recommended that they be continued.

Emphasis

For many of the reasons cited, the degree of emphasis and extent of expenditures and allocations for medical and research facilities and services vary between countries. This category includes

construction, equipment and operation of hospitals, dispensaries, health posts, traveling clinics, health centers, public health and hospital nursing service and the construction, remodeling and operation of laboratories. (See Table No. 1.) Guatemala has assigned 78.8 percent of its total expenditures for all types of projects to this category, followed by Peru, 71.6 percent; Paraguay, 70.8 percent; Uruguay, 55.8 percent; Ecuador, 45.9 percent; and Bolivia, 42.2 percent. Table No. 2, sets forth the breakdown of the expenditures in the above category which represent 36.9 percent of the total expenditures in all countries for all types of projects. It is to be noted that in this category of projects 47 percent of the funds were expended for hospitals and sanatoria, compared with 43.1 percent for health centers and 2.4 percent for institutes and laboratories. The following countries placed major emphasis upon construction and operation of hospitals and sanatoria: Guatemala, 97.9 percent; Honduras, 95.3 percent; Ecuador, 90.2 percent. In Uruguay no funds were assigned for hospitals and sanatoria. All available funds in this category were expended for health centers.

When the total expenditures for completed projects and allocations for active hospital and sanatoria projects by construction and operation costs (see Table No. 3) are examined, it is found that, of all the funds expended for hospitals, 86.3 percent were for construction, equipment and supplies and only 13.7 percent for maintenance and operation. In Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Haiti, Mexico, Nicaragua and Peru more than 90 percent of their hospital expenditures were assigned to construction, equipment and supplies. At the other extreme, Brazil and Honduras spent approximately half of the funds for maintenance and operation, and Peru approximately one-third for maintenance. The table illustrates how the approach in many of the countries has been to provide the physical facilities, equipment and supplies required for hospital care, without obvious assurance as to how the projects may be operated or administered.

ACCOMPLISHMENTS

There can be no doubt that the program of the Institute of Inter-American Affairs through its Servicios, with monetary aid, advice and service has contributed tremendously to the improvement of hospital service generally in Latin America.

The immediate and long-range accomplishments have varied as between countries, depending upon the emphasis placed upon the expansion of the program and the effect it has had on local and national thinking, and in part on administration in the broad field of hospital service and as it relates to the total health and welfare.

The program has brought modern hospital services of a fairly high quality to many sections of Latin America which did not previously have them. The Servicio program has shown that it is possible to provide reasonably modern hospital services to such areas as the Amazon Valley of Brazil, the Loreto Province of Peru and to many isolated sections in Ecuador and other countries. To quote the United States Consul at Iquitos, Peru "These people had nothing in the way of modern medical hospital care and public health services until the Servicio came here." In Brazil, Ecuador, El Salvador and Paraguay the program has demonstrated that it is possible in Latin America to have combined hospital, health center and general sanitation services functioning effectively and efficiently together.

In Physical Facilities

While major contributions have been made toward the development of hospital plants and equipment in many of the large cities, the primary emphasis of the Institute program in the fields of hospital construction, equipment and operation has been directed toward providing modern hospital plant facilities and equipment in rural and small urban areas. In many communities these new plants have replaced antiquated, obsolete structures, such as at Riobamba in Ecuador, while in others the construction has inaugurated hospital service for the area.

While construction in Servicio projects has generally been adequate, deficiencies of design and structure were observed in

a number of locations. For example, the flooring at the Iquitos Hospital in Peru, in a hot moist climate, was constructed of wood. This flooring was rapidly disintergrating and was currently being replaced. Some difficulty was being encountered with regard to the water tightness of roofing. At a number of locations equipment had been supplied which appeared beyond the capacity of the local people to utilize and adequately maintain. At several of the hospitals in Ecuador expensive refrigerators had been provided which were being used for the storage of a small quantity of vegetables while the meat was hanging outside. Elsewhere refrigerators had failed to function and were lying idle for want of maintenance service. At Ambato, Ecuador, expensive X-ray equipment had been duplicated and was lying idle. In contrast, however, there were many laboratories at hospitals built by the Servicio which were being well utilized and were providing diagnostic services which had not heretofore been available.

In all of the countries visited, it was noted that construction and equipment of hospital projects had been accomplished at very reasonable cost, and no evidences of apparent wastage of funds or addition of luxury items were apparent.

In view of the large deficit in hospital facilities and the tremendous need for replacement of obsolete hospital plants, together with the apparent need for technical assistance in all of the countries visited, it is recommended that the Institute make available to the chiefs of field parties sufficient competent consultative services in the field of hospital design, construction and equipment.

In Hospital Planning

It was noted, particularly in Ecuador, that Institute-sponsored projects for new hospital construction were undertaken in many areas without prior survey as to the actual needs of the hospital service areas or other factors or to the existence and influence of other hospitals in the area. Such prior study is required to determine proper location, size, type of structure and design. For example, the Conocota Mental Hospital in Ecuador is located out in the country, quite inaccessible to medical and other staff and not readily adapted for medical and nursing educational activities obviously needed. Further, its size is such that the inmates of this operating but obsolete mental hospital could not all be accommodated, and the administration was open to criticism for discriminatory practices in the necessary referral of patients.

The survey revealed a number of delays in the operation of Institute programs for construction and actual opening of hospitals. These delays were found to be due to a number of factors, including lack of adequate equipment and staff arrangements and financial aspects of operation.

It is, therefore, recommended that in any new hospital project under the Servicio program there should be prior planning, including arrangements to secure financial support and provisions for adequate equipment and staff. It is further recommended that the Servicio make careful appraisal of these factors to avoid the assuming of responsibility for any hospital structure or service which is professionally, administratively or economically unsound.

The Institute program has made many valuable contributions which reflect sound appraisal and planning. The Trudeau Tuberculosis Sanatorium in Santiago is outstanding in its care of tuberculosis patients. It was planned with prior attention to location, size, design, staffing and educational potentialities. This is also true of the new maternity hospital at Quito, Ecuador; the Carbernos Hospital at Santiago, Chile; and in some of the hospital arrangements in the Loreto Province of Peru.

In Hospital Administration

The benefit of formal training opportunities provided by the Institute and by the Kellogg and Rockefeller Foundations was observed at several locations where former trainees were doing outstanding work in improving the operation of their

hospitals, obtaining better patient care through shorter hospital stay, and in carrying out effective educational courses for physicians, nurses, laboratory technicians, dietitians, record librarians and hospital auxiliaries. The contribution of the Institute program to the training of hospital administrators at the Institute of Public Health at Santiago was especially noted. The improvements made in the physical plants, administration and staffing of the Guayaquil hospitals was regarded as a tribute to the technical pool hospital consultant of the Institute.

It is a view of the evaluators that the Institute programs have proved to the Latin American countries and to the United States that it is possible to arrange for and provide adequate hospital service in many outlying underdeveloped and impoverished areas in Latin America. Out of the programs in Chimbote and in the Loreto Province of Peru, as well as in the Amazon Valley and other sections of Brazil, have come noteworthy contributions in hospital services. In some programs surveyed, Servicio administration and operation of new hospitals were found to have extended beyond what might be regarded as a reasonable period of time. There were also situations in which, under Servicio or local responsibility, physical plants and administration had been allowed to deteriorate. In some instances, patient care was of sub-standard or poor quality. Outstanding examples were seen at the Segura Obrera Hospital in Asuncion, the Infectious Disease Hospital at Quito and, to a lesser extent, at the general hospital in Iquitos, Peru.

It is recommended that as part of project planning, agreements should be reached as to the date when the Servicio will terminate operation and turn the hospital over to the national services. It is further recommended that the Servicio should encourage the formation, wherever possible and feasible, of a local representative hospital board on which the Servicio might have representation. Continuing consultation should be offered to the administrators and boards of these hospitals, and no effort should be spared by the Servicio in encouraging the maintenance of the highest practical standards.

In Application of Modern Techniques

The complexity of modern medical science and the multiplicity of skills and procedures required for comprehensive care of the individual patient have led to changes in the medical staffing of hospitals. Today, individual patient care may frequently require services of specialists in surgery, medicine and allied branches, including pathology. This has resulted in a teamwork approach to the patient, and it has also resulted in a medical staff organization patterned after the major specialty branches of medical competence. While this has had a desirable effect upon the quality of individual patient care, it has placed a variable measure of restriction upon the physician's activities, this dependent upon his competence in the various procedures needed for adequate care. It has also led to a certain amount of required supervision over the activities of the individual physician.

The program of the Institute, the survey revealed, had done much throughout Brazil, Chile, Peru and, to a lesser extent, El Salvador, to bring about better distribution of physicians in the specialties required by hospitals. It had been demonstrated in these countries that full-time physicians, reasonably well reimbursed, could function well in a cooperative team approach in rendering hospital and clinic services. This approach, it was found, had contributed importantly to the medical staff organization in several of the countries. Several hospitals in Guayaquil, a maternity hospital at Quito, and tuberculosis hospital in Santiago were examples.

The program had also demonstrated that by making available the newer drugs, including the antibiotics, hospital stay could be shortened and a more favorable outcome of illness secured. Prenatal, postnatal and infant hygiene services at health centers had had beneficial effect upon existing obstetrical services at most of the hospitals in which the program operated. Its beneficial effects in the training and supervision of midwives in the Amazon Valley in Brazil, in Chile,

Ecuador, Peru and in most of the other Latin American countries, it seemed certain, would be reflected in a greatly lowered maternal mortality and infant and morbidity rates.

In Medical Education

Having observed indications of a great need of physicians, as well as nurses, for a more thorough background in preventive medicine and public health, and in the economic and social aspects of community health and welfare, the evaluators felt that more attention to these aspects of national and local health services might reduce capital and operating costs in the hospital programs.

On the whole, however, they agreed that the program of the Institute had made outstanding contributions in several aspects of this field. Its aid in the work of the Institutes of Hygiene at Guayaquil and Santiago and the School of Public Health at Santiago were seen as illustrative of contributions to medical and nursing education services as they related to hospitals. Emphasis had been placed upon institutes and laboratories in Bolivia, Brazil, Chile, Colombia, Ecuador and Nicaragua which had contributed to the improvement of medical and public health practices, both within and without the hospitals.

Inasmuch as this field is of fundamental importance in practical application of modern scientific advance, it is recommended that the chiefs of field parties concern themselves with methods for improving medical education as well as hospital administration in order to effect improvement in the medical care aspects of hospital service.

Nursing.--Considerable advancement was noted in the field of nursing education. The Institute project for the establishment and operation of the nursing school at Quito was seen as a major contribution to hospital service in that country. Because of economic, social and other factors, it was thought unreasonable, as yet, to expect the hospitals of the Latin American countries to adopt, in toto, North American nursing practices.

In Out-Patient Services

The survey showed that many of the Servicio projects had contributed importantly toward the volume and quality of ambulatory clinic services. This was especially noted in the Servicio clinic project at the Luis Vernaza Hospital at Guayaquil and at the tuberculosis hospital service of the Servicio project at the Tuberculosis Hospital in Santiago. This advance had been an outstanding feature of most of the public health center projects in most of the Latin American countries, with the exception of Uruguay, where good public health clinic services were rendered but general medical care ambulatory services were not included in the program.

In Laboratory Services

It was noted at all of the hospitals which had been projects of the Servicios, that adequate arrangements had been made for laboratory space and equipment. The activities at a number of the Institutes of Hygiene were contributing toward a better supply of laboratory personnel. The Servicio-built and operated public health laboratory at Asuncion was outstanding, with but one criticism: the volume of work did not appear to warrant the large number of personnel employed.

It is recommended that the Servicios place emphasis upon the improvement of laboratory services as a necessary adjunct to good medical care and more effective utilization of hospital beds. In cooperation with the ministries of health and the medical schools, attempts should be made to establish national standards for laboratory service and to encourage inauguration of an improved system of laboratories.

In Patient Care

In several of the Servicio-sponsored projects reviewed, local response to patient responsibility for the cost of hospital stay was noted. Social security insurance was providing a mechanism for patient contribution rather than reliance on government or charity. With the completion of many modern, well equipped hospitals

throughout the Latin American countries, the concept of pay patients was being more widely accepted. This was strikingly evident at the Quito Maternity Hospital. The evaluators agreed that the chiefs of field party of the several Servicios should give thought to the problem of paying patients especially in those countries where the Servicio is operating projects with little or no attempt to secure funds from the patients or other organizations responsible for providing care.

General Conclusion

With the funds available, the Institute and cooperating Latin American governments have made excellent progress in the field of hospital service. The accomplishments have earned the admiration of leaders in all fields because of the ability to get things done rapidly and well. The effect of the demonstration of techniques and procedures has contributed importantly toward stimulating community interest and activity, regional and national, which has resulted in a large measure of success in cooperative attack on indigenous health problems.

II. HEALTH CENTERS

The health center is the physical structure from which personal and environmental health services are made available to the people of a given community or area and is the focal point of the administration of these services.

Significant advances in the development of health centers in Latin America have been made since the inauguration of the cooperative programs. The physician, the nurse, the statistician, the health educator, the social worker, the nutritionist and the laboratory technician have all made their contributions. The health center idea has been so convincingly demonstrated that Latin American health administrators have quite generally accepted it. Nationals attending schools of public health both in their own countries and in the United States have been uniformly exposed to it, and upon their assignment or reassignment to action programs have usually become apostles of the concept.

DEFINITION

What constitutes a health center as developed under the bilateral program of the Institute and Latin American countries requires definition. Early in the experience of the Institute it was found necessary to set up medical posts to give medical care to the people near military installations and to workers and their families in vital war materials projects. These were essentially centers for the treatment of disease and where indicated inoculations and vaccinations of various kinds were given, but the traditional preventive services were crowded out by a combination of the lack of personnel and the emergency situations which demanded attention.

With the exception of these medical posts, developed early in the program, it was found in the field survey that a large percentage of the centers were giving services in the field of maternal and child health, communicable disease control, including immunization, tuberculosis, and venereal disease control, health education, laboratory service, and some centers were making provision for environmental sanitation, nutrition and vital statistics. In a few instances, laundries and bath houses were being provided.

ADMINISTRATION

In most Latin American countries the national health agency administers local health services. In others, such as Brazil, Mexico and Venezuela, the states have the primary responsibility.

Servicio-constructed and Servicio-operated centers are sometimes integrated into the health structure of the country, as in Chile, or are quite independent as in Bolivia. The evaluators found arguments for and against both concepts, but in every instance agreed that the aim should be that the country itself would eventually operate the centers as a part of the appropriate health service, and that with this as the aim of the program, it should be a part of the planning from the time the individual project is conceived. Unless the health center should become the focal point for the administration of health services to

the area, there might be in effect more than one health service with resulting disunity or duplication of effort.

It is therefore recommended that Servicio health center operations include careful study of administrative relationships and the development of plans for integration of these centers into the health administration of the area at a time mutually agreed upon.

The problem was found complicated by the fact that in many countries there were special programs usually concerned with the control of specific diseases which were not administratively tied in with local health administration and health centers. These special campaigns for the control of malaria, yaws, mal de pinto, typhus, yellow fever, etc., had logically developed because of the tremendous economic and social losses resulting from these diseases and the urgent need for their control. This situation further emphasizes the importance of the aim of the Institute to strengthen and build up the health services of the various countries.

OPERATION: AN INTENSIVE FIELD SURVEY

In the countries studied intensively by the evaluation team, it was evident that success of the development of the public health movement and the operation of its health center component, was based to a large measure on the training programs of the Institute of Inter-American Affairs and of the Rockefeller Foundation. Carefully selected physicians and nurses, after their public health training, formed the nuclei around which these programs were developed.

With the exception of Brazil, Mexico and Chile, not much health center development had occurred in Latin America until the Institute initiated its health and sanitation program with a major emphasis on preventive health services and on health center construction and operation. At about the same time the Rockefeller Foundation had extended its public health activities from Brazil and Mexico to other Latin American countries and the resources of the two organizations at times supplemented and complemented one another.

In Chile, for example, the Rockefeller Foundation was interested in the development of community health services in the Quinta Normal section of Santiago and since its fiscal resources did not permit construction of a health center, the Servicio ("Departmento" in Chile) made this facility available and thus both organizations worked together with the National health department to strengthen the health services of this particular community.

In El Salvador, health centers had been in operation before the Servicio had developed its program of health center construction. Twelve centers constructed by the Servicio had been turned over to the Department of Health for operation almost as soon as they were completed. Following the revolution of 1944, the Servicio had the nominal responsibility of operating several centers for two years, but it was clearly evident to the survey team that the government of El Salvador was able to operate its health centers without assistance from the Servicio.

In Chile, at Valparaiso, Antofagasta, and Temuco, the centers constructed were being administered by the National Department of Public Health through the "Departmento". Actually the latter organization exerted a strong influence on their operation. The Quinta Normal Center in Santiago was being operated by the Provincial Health Administration and the influence of the "Departmento" was more remote. It was apparent that the health center idea had been accepted in Chile, and it was planned by the national health service to develop centers in Santiago and the other large cities. It seemed probable that in the smaller communities preventive services would be related closely to hospital and outpatient services to be provided under a new law relating to the fusion of medical and welfare services.

In Ecuador, the third country studied intensively, the center constructed in

Quito had been turned over to the National Department of Health for operation. The level of administration of the public health program was limited by lack of funds and personnel, but the center was well managed and was giving a high standard of service.

In Mexico, six centers had been constructed and two were under construction. Two centers had been operated by the Servicio for approximately four years but had been turned over and were being operated effectively by the health services of the country.

In Bolivia, nine centers had been constructed and put into operation by the Servicio but so far as the team was able to determine, there was no plan to turn these centers over to the national health service for operation. In fact, the national budgetary resources were reported to be so meager that it seemed improbable, considering other health needs, that funds could be found for their operation without outside assistance.

In Paraguay, where five centers had been constructed and four were being operated by the Servicio, a similar situation existed insofar as national finances were concerned. The question which logically presented itself was whether under economic conditions such as were found in Bolivia and Paraguay, the Servicio was justified in demonstrating a health center program of the usual type. As regarded countries with very limited economic resources, a question was raised as to whether it would not be better to try to find some method of providing health services more in keeping with available funds.

In Brazil, the cooperative program was operating medical posts, hospitals, and health centers in nine states and four territories. The following facilities were being provided or were to be made available soon:

	In Operation	To be placed in Operation soon
*Sub-Posts	30	12
Medical Posts	12	29
Health Centers		
Type A	20	7
Type B	23	6
Type C	2	
	97	54

While very few of these facilities had been turned over to the national or state health services, full responsibility for their administration was vested in nationals, and only a small percent of the operating expense was being carried by funds contributed by the United States. The chief of party was of the opinion that the program would be carried on even if the cooperative program was discontinued. Following is a definition of the above types:

Type of Center	Activities
Sub-Post	Sanitation Health Education Medical Assistance
Medical Post	Same activities as a Sub-Post but in greater quantity
Health Center, Type A	Vital Statistics Sanitation Health Education Control of Communicable Diseases Medical Assistance
Health Center, Type B	Same as A, but also including Maternity Hygiene and Infant Hygiene
Health Center, Type C	Same as B, but also including Preschool and School Hygiene, control of venereal diseases, leprosy and tuberculosis through scheduled clinics

*The above factual data regarding the numbers of health centers constructed and operated by the Servicios and turned over to indigenous health services was largely procured from questionnaires prepared by chiefs of party in the various countries. This represents a great deal of effort for which the members of the team express special appreciation.

In Colombia, four health centers had been constructed by the Servicio. Two of these had been turned over immediately and two were operated several years before being turned over. One center not constructed by the Servicio was being operated and approximately thirty medical posts and health centers which, during the war period were operated by the Servicio had been turned over to the government.

In Costa Rica, ten centers had been constructed by the Servicio. All had been turned over to the government for operation. All but two were operated by the Servicio for periods varying from one to three years.

In Guatamala, six centers had been constructed and four of these were operated by the Servicio for three years before being turned over to the national health service for operation.

In Haiti, three centers had been constructed and one was operated for 3½ years before being turned over to the national health service.

In Honduras, three centers had been constructed and one was operated by the Servicio for two years before being turned over.

In Nicaragua, seven centers had been constructed and all were operated by the Servicio for periods ranging from 2-3 years before being turned over to the national health service.

In Panama, no centers had been constructed or operated by the Servicio. However, during the period 1937-1951 the national health service of Panama had placed in operation approximately twenty health centers and medical posts.

In Peru, four centers had been constructed and were being operated by the Servicio. No definite plans had been laid for turnover to the national health service, although there were apparently no fiscal barriers.

In Uruguay, six centers had been constructed and were being operated by the Servicio. Here, as in Peru, fiscal barriers against turnover were reported as minimal, but in spite of efforts by the chief of party, it had thus far not been possible to negotiate an agreement for turnover to the state or local health services.

In Venezuela, the construction or operation of health centers had not been a part of the program of the Servicio.

Summary. A survey of health center construction and operation gives factual evidence that the health center idea has become an integral part of the public health programs of a majority of the Latin American countries in which bilaterial health programs have been in operation.

In most of the countries studied, however, the collection and analysis of vital statistics were in the early stages. They had not been developed to the point where it was possible to relate health service operation to mortality and morbidity rates. On the face of such statistics as had become available, therefore, countries and cities having the best programs often showed the highest rates, while the countries having the less adequate programs might have the lowest rates.

Evidence of decreasing infant and maternal mortality in the areas served by maternal and child hygiene facilities has been gradually accumulating. This was noted in San Salvador, Santa Ana (El Salvador), Quito, Lima (Rimac Health District), Santiago (Quinta Normal Health District) and in other areas.

Programs of immunization have been successful in stopping epidemics of whooping cough, diphtheria and smallpox, and there is little resistance to these programs because the people themselves can see the importance and value of protection against these diseases.

PLANNING THE HEALTH CENTER PROGRAM

In the limited segment of public health service represented by the health center, the special significance of program planning was given emphasis in the evaluation. Basic considerations were:

1. It is necessary to have a working knowledge of the health needs and the disease problems of an area. It is not sufficient to take for granted that the usual causes of morbidity and mortality have specific application.

2. It is important to understand the cultural and social development of the people of the area to be served, as well as the economic potential. It is poor planning to saddle a community with an economic burden which the available resources cannot be expected to sustain.

Related observations and conclusions were in substance as follows:

Location

The preliminary survey should indicate where the center should be located. This is of very great importance since one of the fundamentals of the health center concept is accessibility to the people to be served. The team found several instances in which the location of the health center had been dictated by a gift of property, and two in which the health center was planned as a part of a National Health Administration building, in spite of the fact that this location was outside the area to be served.

Instances such as these emphasized the principle that the survey should take into consideration the health needs of the people to be served.

Health centers should be closely related to the curative services which are available in the area and in most instances, the centers themselves should provide some curative services.

The observations of the Evaluation Team indicated that in only a few countries, for example, Uruguay, was the preventive concept rigidly adhered to. However, the curative services made available in most countries were usually a concession to the demands of the clients and were made available only because the clients would not come to the center unless these services were available.

A need for better balance between preventive and curative services in the health centers visited was clearly apparent. The allocations of space and personnel to curative services was very disproportionate.

It is therefore recommended that a review be made of the need for curative services in each health center area and where necessary curative services be provided in or related to the health center, always of course keeping in mind the primary importance of the preventive concept of health center operations.

Mobilization of Resources

The preliminary survey should include a study of all the health and welfare resources in the area to be served. This is particularly true since in most of the areas these resources are rarely sufficient to meet the minimum need. It is, therefore, essential that the best possible use be made of what is available and that there be a working relationship between the agencies and institutions giving health and welfare services. A working relationship between the health center and the hospital services in the area is particularly important. It was observed that in some of the health centers, prenatal case histories were made available to the maternity hospital for the information of the physician or midwife responsible for the delivery of the baby and there was sometimes a flow of information from the maternity hospital to the health center for the information of the physicians and public health nurses. This relationship, however, seemed to be too infrequent.

Physical vs. Working Relationship.--In a few instances, the concept of a physical relationship between the hospital and health center resulted in ill-advised placement of the health center at the hospital, either as a part of the hospital structure or on the same piece of property, at the tremendous cost of locating the health center a mile or two outside of, rather than in the center of the area to be served. The physical relationship between these services is not as important as the working relationship.

In a few countries the sanitarian, sanitary engineer, or sanitary inspector has been made a part of the health center team and the tremendous problem of introducing the practice of sanitary living has been started.

The concept of community centers providing services broader than the traditional curative and preventive health services has a great deal of merit and should be taken into consideration in the planning program for a given community. In the San Felipe Center in Chile, for example, it was observed that traditional preventive services were being made available at the health center and at the related clinics of the social security organization, a few blocks away. In fact most of the personal health services, both preventive and curative, were a function of the latter institution.

Agricultural Activities.--The San Felipe center contained an office for a representative of the Department of Agriculture and his assistants. The program carried out by these individuals was of great importance and interest to the people of the community. Throughout this section of the Aconcagua Valley homemaker clubs, garden clubs and 4-C clubs were being developed. The 4-C clubs, like 4-H clubs in the United States, were designed to encourage boys and girls to learn the concepts of scientific farming and homemaking. It appeared that the interest of the people in the health program was greatly enhanced by the consideration and attention that was given by the health center to these auxiliary operations.

The result of these clubs was the development of gardens, vineyards, orchards, poultry runs and pig sties to augment the food supply of low salaried workers. Through these clubs there was also being fostered an interest in home sanitation, resulting in the replacing of dirt floors with concrete; the building of simple furniture for homes; the providing of a sanitary privy and other facilities--all tending to raise the level of health and self-respect of the people in the area. The garden clubs at many of the centers in Brazil had also reached into many homes in the community and exerted a positive influence on health.

Teaching the people how to develop a garden which will provide badly needed fresh vegetables and fruits which may be grown where they live, whether in the tropical Amazon or in the Altiplano of Bolivia and Peru, seemed to the evaluators to be of great importance to the health of the more impoverished people in these regions.

The Institute has an interest in the development of agriculture and education. It is essential that these resources and facilities be brought to bear on the problems in the various countries where the need is so great. They should be brought into the early planning stages.

Integration

Planning the health center should in every possible instance include the question as to when the new service will be made an integral part of the indigenous health program of the community. The inclusion of this consideration in the planning stage of the project will naturally bring the health officials in much closer relationship to the project right from the start; and while it may be difficult to fix an exact date when the project should be turned over, a date should be included in the agreement. If necessary, this can be changed as the occasion demands.

Original planning for a health center should provide for review and evaluation at intervals as the program develops. This will at least give a partial answer to the questions as to whether the results of the project justify the costs to the people.

PHYSICAL STRUCTURE

Until the overall decision has been made regarding the services to be included in a health center, physical plans for the center should not be started. Physicians, nurses and sanitation personnel, preferably those who will be responsible for the operation of the center, should be consulted early in planning the functional design.

The experience already gained by the Institute can be of great assistance in planning future centers. Through this experience the mistakes of the past can be eliminated and the best features of the centers in the various countries can be utilized where appropriate. This emphasizes the need for architectural consultative services which should be available early in the planning before working drawings are commenced, but in the opinion of the evaluators should not require the submission of plans and specifications to Washington for approval. Field survey showed the structural design of health centers built by the Servicio to be in general adequate. In some instances the actual construction had suffered because of lack of skilled workmen and by reason of the necessity for using unfamiliar materials, which gave some structures a rather crude appearance. In one country, roof design for centers was of an untried type not conforming to the general architectural pattern of the country. Leaky roofs necessitated rather perplexing and expensive repairs. It was the general observation of the team that roof construction is one of the most difficult technical problems connected with building construction.

Consultation with architects familiar with materials and construction problems of an area before introducing designs unfamiliar to the construction engineers and workmen, it was thought, might avoid some of the difficulties encountered.

THE HEALTH CENTER AS A TRAINING CENTER

A primary objective of the Institute is the training of health workers, physicians, nurses, engineers and others. Health centers have played an important part in the training program.

The evaluation team noted particularly the programs in effect in Peru at Rimac, in Chile at Cerro Baron, in Brazil at Colatina, in Mexico at Beatriz Velasco de Aleman and in other centers, and formed the opinion that they had been of considerable value in supplying health workers of high quality for the rapidly developing health programs of the various countries.

The chapter on training of this report deals with this important aspect of Servicio operations, but it would seem appropriate here to re-emphasize the need for utilization of health centers in meeting the needs for auxiliary workers in nursing and sanitation programs.

The importance of planning for the training program early so that adequate space will be provided in the center has been demonstrated. At the Beatriz Velasco de Aleman Center in Mexico, for example, it has already been found necessary to add a new section to provide adequate space for the nurse training program.

The health center staff must be materially augmented to meet the added load of training. Experience both in the United States and in Latin America has amply shown that a training program cannot be sandwiched into the regular service of the health center. A minimum ratio of training personnel to trainees, depending on the kind of training and the content of the training course, should be worked out and planned for. Where this is not done, the quality of the personnel trained will be mediocre and the regular services of the center will be impaired.

HEALTH CENTER SERVICES

The evaluators were impressed with quality of services available in Servicio operated centers. There were instances of the use of out-moded drugs, and in some centers doctors and nurses were careless about hand washing after the examination of infectious patients, but the practices of the centers were found generally good.

RECORDS

One of the problems which thus far had not been solved was the keeping and use of records. In some centers the patient records were sketchy and inadequate. Doctors and nurses were often not able to get information regarding past history and treatment without time consuming

search. In some centers a start had been made and in others there was a tendency to make the record too complicated. The whole question of patient records in health centers deserves immediate study and the development of a basic plan which can be adapted to use under varying conditions in the different countries.

The importance of this matter is emphasized by the fact that record systems for centers being developed by the national health services are being influenced by the records in use in the Servicio operated centers.

SUMMARY AND CONCLUSIONS

Health administration and health center operation in Latin America tends to follow the pattern of operation in the United States. This tendency is natural because of the general success of the movement. However, the basic needs of Latin America are variable. Curative services from private physicians and private hospitals are limited because of the low income of the large majority of the population.

Government operated hospital and outpatient services have usually been made available to only a small proportion of the people. Health services developed under these conditions whether by the Servicio or independent of the Servicio should be related to the situation as it exists and in most instances should probably include some curative services.

The health center programs of the Institute have been an important influence on the development of public health services to meet the varying needs in the countries of Latin America. Health centers will probably become as popular and as important to the people of these nations as they are to the people of the United States.

TABLE 1.--Cooperative projects between specified Republics of South and Central America and the Institute of Inter-American Affairs

Total expenditures for completed and allocations for active projects and percent of total expanded for medical and research facilities and services, by Republics, through June 30, 1951.

Republic	Total expenditures and allocations for all types of projects	Expenditures and allocations for medical and research facilities and services only	
		Amount	Percent of total
(1)	(2)	(3)	(4)
Total	$99,632,950	$36,744,966	36.9
Bolivia	4,802,123	2,024,874	42.2
Brazil	[1] 26,391,059	10,210,182	38.7
Chile	9,082,780	3,572,259	39.3
Colombia	8,961,382	2,299,320	25.7
Costa Rica	1,038,148	284,066	27.4
Dominican Republic	571,436	--	0.0
Ecuador	6,860,722	3,150,448	45.9
El Salvador	3,005,913	736,281	24.5
Guatemala	6,195,366	4,884,220	78.8
Haiti	2,414,261	331,760	13.7
Honduras	2,958,581	861,130	29.1
Mexico	8,336,374	1,084,857	13.0
Nicaragua	1,029,254	196,406	19.1
Panama	684,609	--	0.0
Paraguay	2,987,762	2,115,530	70.8
Peru	5,872,414	4,204,466	71.6
Uruguay	1,415,517	789,167	55.8
Venezuela	7,025,249	--	0.0

[1] In addition, $2,604,227 are unallocated.

TABLE 2.--Cooperative projects between specified Republics of South and Central America and the Institute of Inter-American Affairs

Distribution of total expenditures for completed and allocations for active medical and research facility and service projects, by purpose of expenditure and Republics, through June 30, 1951.

Republic	Total expenditures and allocations	Amount						
		Construction and operation of facilities						
		Total	Hospitals and sanatoria	Combined Hospital-Health Center	Clinics, dispensaries, yachts, health posts, etc.	Health Centers	Institutes and Laboratories	All Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Total.....	$36,744,966	$36,682,110	17,274,837	346,411	2,337,864	15,838,709	884,289	$62,856
Bolivia.....	2,024,874	2,024,874	385,418	--	264,603	1,342,564	[1] 32,289	--
Brazil.....	10,210,182	10,150,546	2,332,136	--	[2] 1,085,984	6,272,057	[1] 460,369	[3] 59,636
Chile.....	3,572,259	3,572,259	1,812,686	--	--	1,459,136	[4] 300,437	--
Colombia....	2,299,320	2,299,320	87,770	--	85,586	2,088,002	[5] 37,962	--
Costa Rica..	284,066	284,066	53,665	18,011	--	212,390	--	--
Dominican Republic..	--	--	--	--	--	--	--	--
Ecuador.....	3,150,448	3,150,448	2,841,685	--	98,804	188,061	[6] 21,898	--
El Salvador	736,281	736,281	215,222	328,400	--	[7] 192,659	--	--
Guatemala...	4,884,220	4,884,220	4,782,658	--	65,772	35,790	--	--
Haiti.....	331,760	328,540	169,357	--	1,200	157,983	--	[8] 3,220
Honduras....	861,130	861,130	820,864	--	11,973	28,293	--	--
Mexico.....	1,084,857	1,084,857	11,200	--	--	[9] 1,073,657	--	--
Nicaragua...	196,406	196,406	3,528	--	1,879	159,665	[6] 31,334	--
Panama.....	--	--	--	--	--	--	--	--
Paraguay....	2,115,530	2,115,530	1,161,394	--	--	954,136	--	--
Peru.....	4,204,466	4,204,466	2,597,254	--	722,063	885,149	--	--
Uruguay.....	789,167	789,167	--	--	--	789,167	--	--
Venezuela...	--	--	--	--	--	--	--	--

[1] Laboratory.
[2] Including residences of physicians related to facility.
[3] Public health nursing service ($40,508) and preventorium for children of patients with Hansen's Disease ($19,128).

TABLE 2.--Cooperative projects between specified Republics of South and Central America and the Institute of Inter-American Affairs--Continued

Republic	Total expenditures and allocations	Percent distribution						
		Total	Construction and operation of facilities					
			Hospitals and sanatoria	Combined hospital-health center	Clinics, dispensaries, yachts, health posts, etc.	Health centers	Institutes and laboratories	All other
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Total.....	100.0	99.8	47.0	0.9	6.4	43.1	2.4	0.2
Bolivia.....	100.0	100.0	19.0	0.0	13.1	66.3	1.6	0.0
Brazil.....	100.0	99.4	22.9	0.0	10.6	61.4	4.5	0.6
Chile.....	100.0	100.0	50.7	0.0	0.0	40.9	8.4	0.0
Colombia....	100.0	100.0	3.8	0.0	3.7	90.8	1.7	0.0
Costa Rica..	100.0	100.0	18.9	6.3	0.0	74.8	0.0	0.0
Dominican Republic .	--	--	--	--	--	--	--	--
Ecuador.....	100.0	100.0	90.2	0.0	3.1	6.0	0.7	0.0
El Salvador.	100.0	100.0	29.2	44.6	0.0	26.2	0.0	0.0
Guatemala...	100.0	100.0	97.9	0.0	1.4	0.7	0.0	0.0
Haiti.....	100.0	99.0	51.0	0.0	0.4	47.6	0.0	1.0
Honduras....	100.0	100.0	95.3	0.0	1.4	3.3	0.0	0.0
Mexico.....	100.0	100.0	1.0	0.0	0.0	99.0	0.0	0.0
Nicaragua...	100.0	100.0	1.8	0.0	0.9	81.3	16.0	0.0
Panama.....	--	--	--	--	--	--	--	--
Paraguay....	100.0	100.0	54.9	0.0	0.0	45.1	0.0	0.0
Peru.....	100.0	100.0	61.8	0.0	17.2	21.0	0.0	0.0
Uruguay.....	100.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
Venezuela...	--	--	--	--	--	--	--	--

[4] Includes expenditures for National Radium Institute ($11,127) and Bacteriological Institute ($289,310).
[5] National Institute of Epidemiology and Medical Research.
[6] Institute of Hygiene.
[7] Includes $28,400 for health center--dispensary combination.
[8] Quarantine Station.
[9] Includes $137,406 for health center--dispensary combination.

TABLE 3.--Cooperative projects between specified Republics of South and Central America and the Institute of Inter-American Affairs

Distribution of total expenditures for completed and allocations for active hospital and sanatorium projects, by construction and operation costs and republics, through June 30, 1951.

Republic	Amount			Percent distribution		
	Total	Construction,[1] equipment, supplies	Maintenance and operation	Total	Construction,[1] equipment, supplies	Maintenance and operation
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Total	[2] $17,274,837	$14,908,420	$2,366,417	100.0	86.3	13.7
Bolivia	385,418	301,921	83,497	100.0	78.3	21.7
Brazil	2,332,136	1,136,978	1,195,158	100.0	48.8	51.2
Chile	1,812,686	1,812,686	--	100.0	100.0	0.0
Colombia	87,770	87,770	--	100.0	100.0	0.0
Costa Rica	53,665	53,665	--	100.0	100.0	0.0
Dominican Republic	--	--	--	--	--	--
Ecuador	2,841,685	2,781,984	59,701	100.0	97.9	2.1
El Salvador	215,222	215,222	--	100.0	100.0	0.0
Guatemala	4,782,658	4,766,746	15,912	100.0	99.7	0.3
Haiti	169,357	169,357	--	100.0	100.0	0.0
Honduras	820,864	442,331	378,533	100.0	53.9	46.1
Mexico	11,200	11,200	--	100.0	100.0	0.0
Nicaragua	3,528	3,528	--	100.0	100.0	0.0
Panama	--	--	--	--	--	--
Paraguay	1,161,394	777,464	383,930	100.0	66.9	33.1
Peru	2,597,254	2,347,568	249,686	100.0	90.4	9.6
Uruguay	--	--	--	--	--	--
Venezuela	--	--	--	--	--	--

[1] Including remodeling.
[2] In addition, $346,411 was spent for hospital-health center combination facilities, i.e., $18,011 in Costa Rica and $328,400 in El Salvador.

CHAPTER 11.--SCOPE, GENERAL PRINCIPLES, AND RELATIONS

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SCOPE, GENERAL PRINCIPLES, AND RELATIONS

I. Scope of Problem

Two broad areas of analysis lay within the problem confronting the evaluation group. They were these:

Analysis of health activities, with special reference to their role in improving health conditions and so making possible improved standards of living.

Analysis of the Servicio as an administrative mechanism and its principal operational techniques, with special reference to its role in strengthening indigenous health services.

The overall question to be answered in the first area was: How well did the health activities sponsored by the Institute assist the host countries to make the best use of existing health improvement resources, and how soundly planned was the addition of new health resources?

The second area called not only for the collection of information on the variations in the patterns of the Servicio and the operational techniques used, but also for analysis of these devices both in relation to their adequacy in carrying out the individual projects and as forces in strengthening and increasing health improvement resources in the host countries.

In any broad judgment of the performance of the men and women whose responsibility was the planning and execution of programs, these factors would have to be considered:

No blue print based on experience existed for the systematic development of health service with foreign financial and technical assistance.

The selection of projects was a cooperative undertaking with representatives of the host country sharing the responsibility.

There had been considerable pressure, because of the exigencies of World War II, to waste no time in getting things going and with as obvious and beneficial results as possible.

Although these factors had no immediate place in the analysis at hand, in the opinion of the evaluators the pioneers in this unprecedented experiment between governments to improve social conditions in over half a hemisphere had demonstrated remarkable vision and devotion which had their bearing on the activities within the scope of the survey.

ANALYSIS OF HEALTH ACTIVITIES

For the purposes of analysis, health activities could be grouped with little overlapping as:

1. Auxiliary to military projects.

2. Auxiliary to individual economic projects.

3. Basic health improvement projects.

About ninety per cent of the activities fell in the basic health improvement group. The problem of evaluating any one of the three groups varied considerably from that of the others. But for no group was it seen to be the task of the evaluators to measure the value of health activities in relation to balanced economic development programs in the host country. In fact, in no one of the countries included in the survey was it claimed that there existed such a balanced program with proper weighting given to advancing social conditions and increasing economic production. This was not to say that the

Institute had recognized no relation of health activities to the economic systems of the host governments. To the contrary, it was part of the record that health activities together with those in education, housing, nutrition, transportation and irrigation had all been regarded as most important for bringing about the social progress that must be realized to enable economic development to take place. For a number of years a division of the Office of Coordinator of Inter-American Affairs, which included the Institute, had been charged with the development of health and allied activities and designated as its "Basic Economy Division".

Health Services Auxiliary to Military Projects

Little time was given to the evaluation of the military projects. These had been terminated even before the end of World War II. Of most of them scarcely any physical vestige remained locally to bear witness to their accomplishments.

Whenever possible the evaluators visited the locality or attempted to obtain information from eye-witnesses as to the existing results of military projects. In Ecuador, for example, they visited the rubber area where during the war approximately $200,000 was spent to provide medical care for the rubber workers by establishing over twenty dispensaries and by building a small wooden hospital. All of the dispensaries were closed and the rapidly deteriorating hospital building was being operated a few hours a day as an outpatient dispensary. Occasionally an ill indigent person would be given one of the twelve beds in the building. A number of the projects originally created to stimulate production of critical war materials were subsequently supported as a part of the medical and health programs of the country. Their place for evaluation was, of course, with the other health service projects, but actually they had made up a very small part of the ten years of activity.

Health Services Auxiliary to Individual Economic Projects

Another small group of projects to be evaluated included undertakings to further specific economic activities. Typical of this group was the medical care and malaria control work in the railroad construction camps in the Rio Doce Valley in Brazil. This helped to make possible the relocation and repair of the railroad connecting the rich iron ore region to the coast. Another was the medical care and environmental sanitation work in the camps established in Central America in connection with work on the Pan American Highway.

For this group of projects the problem of the evaluators was not to weigh the cost of the overhead services in relation to increased productivity in the area. If it should be found that development of the iron ore industry, in the above example, was delayed until the railroad should be reconstructed, then the fault would lie with the original economic planning or to other factors, and entirely outside the sphere of the evaluation.

For this overhead service type of project, the evaluators could concern themselves only with the technical competence of the projects and the question of whether the immediate objective were achieved. Again, since most of these projects had long since been completed, the written record and eye-witness testimony would have to be used.

Basic Health Improvement Projects

This third group of projects constituted almost the sum total of all the health projects sponsored by the Institute and the cooperating countries. Their adequate evaluation required that they be reviewed (1) in relation to the total social development resources and needs of the area they were established to benefit; and (2) as to their technical competence and adaptation to media in which introduced.

The steps required in the analysis were:

1. Survey of resources, funds, and technical personnel existing in the host countries, and the funds and technical personnel available from the Institute.

2. Survey of needs and assignment of priorities to most urgent needs.

3. Evaluation of allocation of resources to needs.

Survey of Resources.--The evaluators were faced with the fact that in underdeveloped countries social development resources are always fewer than social needs, just as economic development resources are always fewer than needs. A corollary was the consideration that social needs in underdeveloped countries are always much greater than resources. Resources, and not needs, must be the basis for evaluation as well as for planning social development programs.

Among the most important items of information needed in the survey of resources were: National income and its trend over the ten year period; proportion of government budget allocated to health and medical services; revenue for health and medical activities from other than public sources; existing health and other social facilities and services; capacity and rating or training institutions for physicians, nurses, and engineers; existing professional and auxiliary medical and allied manpower; compulsory and voluntary prepayment medical care plans; private medical and hospital services; income maintenance resources; and public assistance resources.

Survey of Needs.--In the second step of the analysis the evaluators had to concern themselves with needs. Here considerably more work had been done throughout the ten years of operation than in the case of resources. Not only the disease prevalence but the behavior of the general population in relation to healthful living practices could be used as broad indicators of the most urgent needs.

Allocation of Resources to Needs.--This third step was, of course, the most difficult of the three. The approach could not be based entirely upon the historical experience of those countries which, through several centuries, had evolved more adequate health services. The Latin American countries had not evolved such organic services based on strong, long-evolving medical tradition following or paralleling economic expansion. Furthermore, important health services in Latin America could not be delayed until adequately financed through successful industrialization. They must be conceived as necessary overhead or as a mortgage to accelerate economic expansion. Moreover, whereas in the more highly developed countries the growth of health services came about from the almost uninterfered-with operation of the law of supply and demand, many of the Latin American countries for several decades had attempted within their limited resources to make these services available to those unable to provide for themselves. Further, application of the experience of other countries to the problem in Latin America was limited by the fact that there was no general pattern within which a blueprint could be developed to meet the greatly varying conditions.

Another positive factor limiting the application of health services such as found in more highly developed areas was that, quite rightly, Latin American countries had desire to take short cuts and make across-the-board use of the great body of technical knowledge that had become available.

But despite the necessary modifications for evaluating allocation of limited resources to great needs, the experience of the more highly developed countries could nevertheless be used.

The categories of projects were reviewed as to their technical competence, and also with particular attention to whether or not the best available experience had been introduced. This must cover such factors as drugs, sterilization techniques, record systems, health education information, and, more important, the practicability of specific projects considering all factors.

The evaluators further recognized that weighing the allocation of resources to needs required consideration of cultural as well as fiscal and technical factors. Cultural factors must include the ways of life, the value of standards, and particularly the beliefs and customs of the people with respect to health and illness. Also, the motivation of those nationals

whose responsibility was the formation and execution of the health programs in the country must be understood. Without such data, obtained by the application of techniques developed by the social anthropologist and other workers in the social sciences, it would be impossible to determine the major aids and obstacles to accomplishing the objectives of the Institute's health program.

ANALYSIS OF THE SERVICIO

Building up health services in a given country with financial and technical assistance from another country immediately introduces a factor that is not present where the development is totally indigenous. The evaluators had to take this into account.

Although the same general pattern of operation through a Servicio had been recommended to all eighteen host countries, in actual operation there had developed about as many patterns as there were Servicios. On one hand this wide variation complicated the problem of evaluating the Servicio, but on the other it increased the experience available for testing the value of different administrative relationships of the Servicio to the host governments. It was necessary, therefore, to analyze the effect of the most differing patterns of the Servicio from the following positions: (1) Relationship of the Servicio to the host government; (2) relationship of the field party to the Servicio and to other parts of the host government; (3) organizational structure of the Servicio, and (4) principal operational devices employed by the Servicio in the execution of projects.

Relationship to the Host Government

The analysis of the relationship of the Servicio to the host government included consideration of whether the position of the Servicio was actually that of a unit in the host government or that of merely an intermediary agency recognized by the host government as a subsidiary office of the Institute.

If the Servicio was actually a part of the host government and not merely an intermediary agency, the relationship had to be still further studied to determine if the program of the Servicio was coordinated with that of the indigenous health or allied service on paper only, or if the Servicio actually did function to stimulate and strengthen the growth of the indigenous service in which it was located. This included consideration of the relationship of the Servicio to the head of the ministry or division of the ministry in which the Servicio was located or in which the project was operating.

Field Party Relationships

Examination of the relationship of the North American Field Party included reviewing the administrative relationship not only of the chief of field party to the representative of the host government, but of all the technical members of the field party to the nationals with whom they were associated.

It was necessary to know if these technical personnel from the United States served as project directors, heads of functional divisions in the Servicio, or as consultants. If they served as consultants, was it as consultants to nationals acting as directors of projects executed by the Servicio or as consultants to other professional personnel in the structure of the indigenous service? Over the ten-year period had there been changes in the administrative relationship of the North American personnel to the nationals with whom they worked?

It was also important in the evaluation to determine whether the organizational plan of the Servicio was primarily for the execution of projects, or if planning and evaluation was also recognized as a necessary function of the Servicio. This would involve examination not only of the organization of the Servicio but also of the training and duties of its personnel as well as that of the field party.

The degree to which the Servicio succeeded in strengthening indigenous health services was also influenced by the operational devices employed in executing the individual projects. A possible measure of success in any given field in which

continuous effort was exerted would be the rate with which change had been made from execution of projects almost entirely by the Servicio, with North American personnel serving as directors of projects, to execution entirely by the appropriate agency of the host government. Steps in between would include, of course, execution of projects by the Servicio with nationals serving as project directors, and execution of projects by units of the indigenous health service other than the Servicio, with North American technicians serving as consultants.

Unless the planning and operation of projects are fully the fruit of teamwork between the field party and the host government the operation may on the one hand be almost direct service by the field party or on the other a grant-in-aid or quasi grant-in-aid from the United States to the host country.

II. GENERAL PRINCIPLES

EFFECTS OF VARYING PATTERNS OF THE SERVICIO

There was no doubt in the minds of the evaluators that establishment of the Servicio within the governmental structure of Latin American countries through formal agreements with the United States contributed to the overall stability of working relationships and prevented serious operational problems from arising in the execution of the projects that constituted the Institute's cooperative health program. But it was clear that the mere establishment of such a unit did not insure effective operation of the program of assistance in the development of coordinated health services. To the contrary, this must be determined by whether the Servicio actually functioned as a part of the structure of the host government to stimulate the coordinated growth of health services.

The evaluators found that not only the position of the Servicio in the structure of the host government, but also its operational techniques, influenced its effectiveness. The most effective techniques were not absolute, however, but dependent upon the framework in which health services were developed and upon their actual stage of development both at the time of the establishment of the Servicio and throughout its existence.

Usual Favorable Position

Most Latin American countries have the same broad pattern, in which one of the ministries of the executive or administrative branch of the national government has major responsibility for health services. This ministry usually has responsibility, also, for all social security programs, including public assistance and the allocation of subsidies to the hospitals and clinics and other medical and welfare institutions throughout the nation.

In a few of the countries this same ministry has responsibility in additional fields--including education and labor. The usual title of the ministry with major responsibility for development of health services may be translated as Ministry of Public Health and Social Welfare. In the field of health it invariably has responsibilities for:

1. A program in public health in broad objective much the same as that sponsored by Federal and State governments in the United States, with major emphasis on preventive medicine.

2. The allocation of subsidies to hospitals and other medical care and welfare institutions and, to an increasing extent, the development and administration of these institutions.

The first is usually assigned to that division of the Ministry known as the National Health Service (Direccion General de Sanidad).

A review of the positions of the Servicios in relation to the distribution of responsibility for health services in the different countries showed that in almost every country the new unit actually was placed as an across-the-board unit in that ministry of the host government having major responsibility for developing health services. The evaluators believed that this

position was favorable and in general contributed to the success of the program. From this position the Servicio was enabled to exert its influence more easily in a much wider field than would have been the case if it had been placed elsewhere in the structure of the government.

Factors of Success

A comparison of the position and operational relationships, together with accomplishments in the three countries intensively studied, El Salvador, Ecuador and Chile, suggested that the favorable placement of the Servicio in the structure of the host government, although clearly helpful, was not the dominant requirement for fulfillment by the Servicio of its intended role in the development of sound coordinated health services. The success of the program of the Servicio was found to be even more dependent upon the character of the operational relationships (1) as between the Servicio and the units in the host government having existing or future responsibility in those areas of health activities in which the Servicio undertook projects; and (2) as between the Field Party of North American technicians and the nationals with whom they worked on the individual projects that constituted the cooperative programs.

Operational Relationships

The operational relationships of the Servicio to the host government units varied widely not only from country to country but from year to year during the existence of the Servicio. For purposes of evaluation, all the cooperative projects could be divided into:

1. Those in fields for which existing units of the host government had major responsibility and had developed programs.

2. Those in fields for which existing units of the host government had legislative or traditional responsibility but had not yet developed programs.

A conclusion of the evaluators was that for the first group of projects not only should all selection and planning of new projects have been done in close cooperation with the unit in the host government having major responsiblity in the field (including state governments, as applicable in Brazil) but that over the years the trend should have been toward an increasing number of instances in which not the Servicio but the regularly responsible unit in the host government actually executed the project, with only technical and financial assistance coming from the Servicio in a modified grant-in-aid pattern.

The evaluators found that in most countries this trend was discernible. In several countries, however, not only was it not found, but in a number of instances a reverse trend appeared to be in operation. One satisfactory piece of evidence as to whether the proper consideration was being given to the existing responsible unit in the host government when selecting and planning a project, was whether the signature of its Director as well as that of the Minister was required on the project agreement.

Intensive Studies

Drawing from the three countries intensively studied, the evaluators found that:

In Chile during the last half of the program, there had been a marked decrease in direct execution by the Servicio of all new projects undertaken. There were eight modified grants-in-aid type of projects to develop already existing programs in the National Health Service (including Epidemiology, Health Education, Sanitary Engineering, Nutrition, Biostatistics, and Office of the Sub-Director). The high standing of the Servicio in this country was of great value, aside from the financial and technical contributions, to these projects. Most of the 35 projects executed directly by the Servicio under the leadership of nationals were initiated during the first half of the program.

In Ecuador the Servicio activities had been characterized by direct execution of projects and by the taking over of a number of activities that had been the tradi-

tional responsibility of the National Health Service. The Director of the National Health Service had had almost no part in the planning and execution of a number of important Servicio projects which normally would have been his responsibility. There was a general sentiment, shared even by the President of Ecuador, that there were sound reasons for the pattern that had developed. The budget of the National Health Service was small; the office of its director was in Guayaquil rather than the national capital; and the success of the National Health Service had been very limited. Furthermore it was pointed out that nationals were employed as directors of projects taken over by the Servicio.

In El Salvador there was found little development of health services through projects placed in the appropriate unit of the host government. Instead, most of the projects were executed directly by the Servicio and there was little evidence of periodic planning conferences with the Director of Public Health and the heads of the operating units. Practically all negotiation and planning were with the Minister.

Much of the work involved construction and was directed toward the improvement of the general environment (water supplies, sewage disposal facilities, malaria control, etc.) and in making additional physical facilities, such as hospitals, health centers, and medical equipment available, to the national health service; and, in more recent years, to the hospital program of the Ministry of Public Health and Social Assistance. From a broader point of view, however, since these buildings, equipment and supplies were turned over to the host government and were being used to carry out its health activities, these projects also could be classified as a type of grant-in-aid.

Servicio Projects

In the case of projects in fields for which existing units of the host government had legislative or traditional responsibility, but had not yet developed programs, the evaluators believed it was necessary to have considerable direct execution of projects by the Servicio. Sometimes the projects in this category were in the nature of pilot projects and sometimes were direct addition to needed facilities.

One of the dangers to sound development of pilot-type or demonstration projects was seen in extending them into long-time operational projects filling important needs in the community. Sometimes, however, this extension appeared warranted by the general economic condition in the country.

The evaluators found that not all of the projects were carried out in close enough collaboration with that unit of the national government--whether in the same ministry as the Servicio or in another ministry--which already had the responsibility for the functioning of the project, or which would be expected to assume such responsibility at the time the project was turned over to the host government. For example, the health center program in Lima was, during most of its eight years' existence, almost completely isolated from the unit in the ministry scheduled to assume one day full responsibility for its operation.

RELATIONSHIP OF FIELD PARTY TO NATIONALS

In the development of the bilateral programs, the rate of assignment of technicians as consultants to units other than the Servicio closely paralleled that of the growth of indigenous health services.

The evaluators found that marked progress had been made in nearly all countries in this shifting relationship of North American technicians from that of project directors to consultants to regularly established units of the host government.

Because conditions in cooperating Latin American countries vary greatly as to availability of well-trained national professional personnel, no comparison could be made as to rate of transferring to nationals increasing responsibility for the activities of the Servicio. The evaluators

agreed, however, that if administration was not orientated in this direction, the program could not be considered to be progressing satisfactorily.

For the promotion of transfer of responsibility they emphasized the importance of close relationship of the North American technicians with those nationals in the host government having responsibility for the functions served by the cooperative projects. The survey had given clear evidence that if the participation of nationals in a cooperative program--whether on the part of the Minister of Public Health and Social Welfare, the Director General of Health, or an official in some other ministry--is limited almost entirely to signing individual project agreements, with no continuing association in the overall planning, execution and evaluation of the program, it could not be claimed that the Servicio as an administrative mechanism had exerted any special force in promoting the development of coordinated health services.

In most countries the participation by the nationals was found to have been active. In one or two countries national leadership in the cooperative program had for some time been outstanding. Continuing consideration should be given to progressive increase in such sharing, even to the extent, in certain cases, of the appointment of a national as Director of Servicio with a relationship to the Chief of Field Party similar to that existing in Brazil.

FAILURE TO DEVELOP OVERALL PLANNING AND EVALUATION

A finding of the Evaluation Team was that one of the functions for which responsibility and cooperative relationships should be clearly defined at the very beginning of a cooperative program is the function of planning and evaluation. The survey showed, however, that for the most part this function remained to be developed, not only as a permanent responsibility of the unit of the host government having major responsibility for development of health services, but also within the Servicio for the planning and evaluation of its own activities.

The selection of cooperative projects had often been made without adequate survey of present and estimate of future health resources and needs. In some countries too little had been gained from experience because of the failure even to make reasonably sufficient and timely progress and completion reports. Furthermore, it was not only the practice of Servicios in several countries to relinquish all responsibility for the operation and maintenance of cooperative projects once turned over to the host country, but there was failure to keep informed as to the current condition of the projects.

Causes of Failure

Failure to have and to adhere to sound and continuing overall planning and evaluation was attributed in large part to:

1. Failure to enlist all existing resources needed for the success of certain health programs, for example, the frequent failure, as in Lima, Peru, to coordinate existing medical care and social welfare programs with newly introduced preventive medicine programs.

2. Deterioration or complete abandonment of certain of the projects turned over to the host government for maintenance and operation, for example, certain of the hospitals in Paraguay.

3. Grave imbalances in development in one or two of the programs, for example, the imbalance of the hospital programs in Ecuador and Guatemala.

With the thought that they might serve as guides for the avoidance or removal of many of the causes of failure, the Evaluation Team listed the following as principles indicated as of basic importance in its observation of programs in operation.

1. Provision of refinements in health services or luxuries are unsound until the mortgage on the future of the country's development is paid and the economy is able to provide health services through successful economic development.

2. Medical and hospital services should be improved and strengthened but not beyond the ability of the economy to employ the product.

3. In the first stages of developing health service, inexpensive projects for which the yield far outweighs the cost should be given priority over heavy fixed capital investment.

4. Projects whose success depends greatly on the concurrent attack on contributing factors other than those that are the immediate objective of the project should not be launched without making certain that other resources in the area are enlisted to meet the requirements of the contributing factors.

Planning

No one of the Servicio organization charts available to the evaluators included a unit for continuing overall program planning and evaluation with the objective of developing sound coordinated health services. Furthermore no evidence was found of any adequate effort to establish or strengthen such planning and evaluation activities as a permanent and continuing function of the ministry in which the Servicio was located or in any other division of the host government. This is a particularly important consideration since history has shown that the Servicio often has greater technical continuity than host government health departments.

The evaluators concurred in the view that such planning and evaluation require, in addition to the services of the usual technical personnel in the health field, the services of social science analysts. They saw such services as of special importance in foreign technical programs, where success is particularly dependent upon knowledge of social conditions and upon understanding of the ways of life, the value standards, and the health beliefs and behavior of the people.

FORM IA-99-Work Sheet

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