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9. ABSTRACT

The American Public Health Association, under a contract with the Agency for International Development, has designed a program in public health improvement which is called the Development and Evaluation of Integrated Delivery Systems (DEIDS). The activity is designed to assist countries to demonstrate how to establish health delivery systems within seven years. Such projects include, but are not limited to, Maternal and Child Health and Family Planning and Nutrition. The projects are to cover large populations in predominantly rural areas. They are to utilize in-country resources for the service component, although external assistance organized by DEIDS is available for planning, evaluation, training, and limited amounts of essential equipment. It is expected that successful health delivery systems can be subsequently replicated in the country or in the region.

These are phases through which DEIDS projects proceed:

- a) Phase I -- reconaissance within a specific country or region, to gather information about disease patterns, health services as currently organized, local resources, cultural aspects, community involvement, the potential for integration of various parts of public health, opportunities for innovation, current and potential staffing, training, supervision, emphasis upon preventive services, outreach, cost, and evaluation
- b) Phase II -- Detailed planning. This phase begins if the survey in Phase I recommends it, and involves experts from the host country as well as experts assigned by DEIDS.
- c) Phase III -- Pilot Project Operations, which continue for as long as eight years.

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DEIDS Reconnaissance

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INTRODUCTION

This reconnaissance visit to Panama represented the first to a Latin American country by a DEIDS team. We were particularly fortunate in that the Minister of Health, Dr. José Renán Esquivel, was personally involved in every aspect of our visit. He arranged to have us see examples of what was being done to extend health services to all citizens, with special emphasis on the rural communities, in the four Health Regions of the country. Ministry of Health personnel of the central staff, in the regions, in rural areas, and in the metropolitan area, were all most cooperative. The USAID Health and Population Advisor, Dr. Ernest Feigenbaum, supplied thorough background information on health in Panama and his excellent relationship with the Minister of Health was clearly indicated throughout our visit.

I. Summary and Recommendation

A. Points Favoring DEIDS Involvement

1. There is an active interest on the part of the Ministry of Health (MS) in participating in a DEIDS program.
2. This is concurred with by AID/Panama and Washington and by PAHO/Washington.
3. The provision of MS family planning and nutrition services is being actively pursued and positive programs have been initiated.
4. The organizational structure from the Ministry down to the villages is sufficiently developed so a DEIDS project could very expeditiously be developed by grafting onto an already existing framework.
5. The pattern of community involvement and participation is planned and already beginning.
6. A training program for village health workers and paramedical personnel is already developing and has great potential.
7. There is potential for a demonstration area in the Central or the Western Region to serve as a Country-wide model.

8. While the country is somewhat ahead of most of the Latin American countries in the planning and implementation of a DEIDS-like approach, this may be a distinct advantage as lessons learned and techniques and approaches developed here may more expeditiously be applied to other countries.

B. Questions Regarding DEIDS Involvement

1. Although the Minister of Health clearly stated that he would not be interested in a total DEIDS project, Panama affords the opportunity for a role in evaluating the validity of the Ministry's approach. The Ministry of Health is well on the way to developing an integrated health delivery system with several impressive innovations. However, there is no well developed evaluation system built into its plan. The fact that the extension of services in both preventive and personal health is on its way should not preclude the possibility of a DEIDS project, which could make a significant contribution in the following areas:

- a) Systems analysis, management practices, evaluation and cost accounting;
- b) development of an adaptive responsive capacity to be able to adjust activities;
- c) measurement of the critical factors of health affected by the system;

d) ensuring a balance between birth and death control.

2. The requirement that a DEIDS project cover an area that is primarily rural may not be met. One question that needs to be resolved is in regard to the cut-off number distinguishing rural and urban population groups. The census for Panama classified 42% of the population as urban, using 1,500 as the line. This is certainly too low. There are fourteen "urban localities" with a population between 1,500 and 10,000 and eight of over 10,000.

Once the definition is agreed upon, we could determine the proportion of rural to urban inhabitants there are in the Central and in the Western Regions, which are considered possible locations for the demonstration.

3. The other basic population question is that of total population benefiting from a DEIDS project. In Panama there are only one and a half million people, one half million of whom live in the two large cities. Therefore, the potential beneficiaries in Panama are no more than one million. On the other hand, Panama's influence on other countries may more than compensate for this relatively small local potential.

C. Recommendation

That DEIDS give serious consideration to providing the evaluation input requested by the Minister of Health, but that the final decision await the reports and analyses of reconnaissance visits to other Latin American countries.

II. General

A. Geography and Climate

The Republic of Panama is situated on a narrow isthmus which connects Colombia, South America, and Costa Rica, Central America. On the north, the Republic is bounded by the Caribbean Sea and on the south by the Pacific Ocean. The Panama Canal bisects the country. The total land area is 28,575 square miles, approximately the size of West Virginia. The mountain chain, which traverses the country longitudinally, approaches the Caribbean Coast. Because of the humidity, jungles and other unfavorable conditions, this area has been sparsely populated. The most important central part of the country from the standpoint of economic productivity is located on the Pacific slopes and coast (the metropolitan area and the agricultural zones of Chiriqui and the Central Provinces). The major part of the population is located in this sector. There is little economic development in the eastern part of the country which is also only sparsely populated.

In Panama tropical climate predominates with consistently high temperatures throughout the year, averaging 77° F. In the mountainous zones the temperatures are a little lower, but it still cannot be considered cold. Due to the differences in the rain patterns, there are regional differences in climate. In the majority of the country the early months

of the year are dry with rains from May to November or December, more intense toward the end of the period. In the central lowlands the dry season is more accentuated, the annual precipitation fluctuating between 40 inches and 60 inches. In certain areas of the Caribbean slopes, due to the mountain rains, the rainfall is heavy (120 to 160 inches) and there is virtually no dry season.

B. Administration and Politics

The National Guard of Panama (the country's only militia) is the keeper of the peace, and its head, Brigadier-General Omar Torrijos Herrera, is the strong-man at whose pleasure the civilian Provisional Board of Government serves. The Board, which has nominal legislative and executive powers, consists of hand-picked President Demetrio B. Lakas and Member Arturo Sucre P. Comprising the Cabinet are the Board and ten ministers who are charged with the responsibility of implementing policy and administering State programs.

General Torrijos celebrated October 11, 1972 as the fourth anniversary of the military coup that brought him to power. On that date, the regime assumed a new legitimacy as it began a six-year "constitutional" term authorized by the 505-member Consultative Assembly, elected on August 6, 1972.

Despite the absence of an actual Constitution, Gen. Torrijos has consistently promised a gradual return to that basis of government without specifying a timetable.

Regardless of the apparent similarities between this and other military regimes, e.g., controlled elections, press censorship, and little or no opposition, this uniquely tailored-for-Panama style of "democracy" departs from traditional molds in that its benevolent nature and socially oriented programs respond to real Panamanian needs. Repeated indications of the consequent popular support achieved by the regime were observed by the reconnaissance team. The Administration has developed a remarkable degree of stability, which must be considered in comparing Panama with other Latin American countries in terms of choosing the site for a DEIDS project.

The country is broken down politically into nine provinces among which are a total of 64 districts. The districts, which correspond to the territorial limits of the municipalities, are divided into counties (corregimientos).

C. Demographic and Statistical Data

The Panamanian population is composed of various racial groups and mixtures. There are the Guaymi, Cuna and

Choco Indians, blacks descended from the Cimarrones (who originally came from Jamaica to help build the Canal), Chinese, East Indians, whites of Spanish ancestry, and a large number (about 72% of the population) who are "mestizo" (a blend). The total population of approximately 1.5 million is among the smallest in Latin America. There is a 3.3 percent annual natural growth rate (Appendix C, Table 1).

The urban population has risen from 41.5% of the total population in 1960 to an estimated 48% in 1970, and is expected to be 59% of the total by 1980. However, the census defines "urban" as any settlement of 1,500 people or more with certain facilities available (electricity, water supply, school, etc.). Only five of 21 urban settlements had populations of 10,000 or over. The smaller urban areas have the traditional rural cultural pattern. One-third of the total population is located in the two large cities on either end of the Panama Canal, Colon and Panama City. Panama City, the capital of the Republic, alone contains over one-quarter of the country's population and has been growing at a rate well above the national average. The number of people below 15 years of age represents 44% of the population and those above 65 represent about 3.5% of the total.

D. Economics

Compared to other Latin American countries, Panama is relatively high on a scale of economic and social development, measured by such simple indices as \$624 per capita GNP, 78% literacy rate, and a 1/1800 physician/population ratio. Average statistics for the country, however, hide the great differences between urban and the rural areas.

It is interesting to note that there was a tendency for the per capita income in Panama to increase up to year 1970, amounting to 468 balboas (= \$468) per person in 1965 and reaching 476 in 1970. From there on the projection indicates diminishing per capita income, from 471 in 1975 to 456 in 1980. This is considered to be caused by the increase in the population growth, which, after 1970, is supposed to cause an imbalance with the annual increment of the gross national product.

Non-official figures, obtained from a special study¹ indicate that although the per capita income in the whole country was 637 balboas in 1967 (note difference from official statistics in preceding paragraph), in the urban commercial-industrial areas (cities like Panama, Colon and their environs) it was actually 1,125 balboas while in the interior of the Republic it was 239 balboas.

¹Graduate thesis of Edilma Lopez, Faculty of Public Administration and Commerce, University of Panama, 1969.

Eighty percent of Panama's Gross Domestic Product is generated in the cities. The largest number of urban workers are in service occupations. Industry, commerce, and construction activities have all expanded greatly in recent years. Panama has always been an important commercial center and increasing emphasis is being given to commercial expansion. Wages are higher in the cities than in the rural areas. Unemployment has been a relatively low and stable 6-7% annually, and inflation has not been a major problem.

Potable water supplies are available to most of the urban population. A lesser but still high percentage of the residents have some means of waste disposal available. A significant amount of development assistance has been allocated to expansion and improvement of urban housing and water and sewerage systems to meet the demands created by increasing urbanization.

On the other hand, urban living conditions are poor for the large bulk of the population. A small upper class and a growing middle class live in relative luxury. Housing for the poor consists of either wooden tenements or of the "casas brujas," shacks constructed literally overnight by those who cannot afford to rent the tenements.

Despite this urbanization and modernization, agriculture still employs a very substantial number of people. Bananas,

the country's chief export, are grown in Chiriqui Province by a subsidiary of United Fruit Company. However, other large-scale agricultural operations are rare, important segments of those being in the production of rice, beef and shrimp. Most of the farming is done on individual farms by traditional methods.

A recurring problem in Panama/United States relations is the sovereignty over the Panama Canal and Canal Zone, currently owned and operated by the U.S. Both economic and social factors relating to the Canal have been sources of conflict. The Canal and the Zone have been of primary importance in developing Panama's economy, particularly the commercial and industrial sectors. Although an estimated 5% of the Panamanian labor force works in the Zone while living in the Republic, revenues relating to goods and services provided to the Zone account for approximately 20% of the Gross National Product.

Panama has made a national commitment to accelerate economic and social development as manifested by improvements in health, education, housing and economic reform. This commitment was demonstrated by its participation as a signatory of the Charter of Punta del Este, which set forth specific goals for the decade 1961-1970, including economic growth, elimination of adult illiteracy, and increase in life expectancy.

E. Education

Under the Constitution of 1904, education is free for all children from the ages of 7 to 15 and compulsory until the child has either completed six grades or reached the age of 16. Primary school is a 6 year program emphasizing academic subjects such as Spanish, math, social studies, and religion. Criticism of this emphasis has led to the inclusion of "practical" subjects such as agriculture, science and hygiene, manual arts, and home economics. English is taught in the fifth and sixth grades.

Secondary school is divided into two cycles of three years each. The first cycle is intended to continue the general background of academic subjects. Those who do not wish this program may take the Sewing Program (3 years plus an optional year), the nautical training program (1 year), or the Vocational program (3 years, terminal). Students who have completed the first academic cycle may follow a three year academic program leading to the bachillerato, three year programs in Agricultural, Commercial, Vocational and Normal (teaching) studies, a two year program in Home Economics, or an Industrial program offering classes in special skills.

The University of Panama in Panama City was founded in 1935 as the final step of the public system. In addition to the public system, there are a number of private schools

and one private university, Santa Maria la Antigua in Panama City, founded in 1965. The traditional practice of studying abroad continues, particularly on the university and graduate levels.

The educational system still does not reach all the children, even those in the compulsory schooling age group. Reasonable estimates of enrollment and completion are that of those entering primary school, 44% complete 6th grade; 30% enter secondary school, and 22% complete the first cycle; 14% enter the second cycle and 9% complete it; 6% enter the University and 0.7% complete it (367 graduates in 1967).

F. Religions, Cultures, and Ethnic Groups, Including Health Beliefs and Systems

Most of the population belongs to an originally Spanish cultural group. Some indigenous groups which were not colonized exist in the west and in the east. Some zones of the Caribbean coast and of Darien are populated with negroes, descendents of slaves and free negroes of the colonial period who speak Spanish, but express the artistic manifestations of their African heritage. In the main cities (Panama City and Colon) there are colonies of negroes who arrived from Jamaica and Antilles Menores for the construction of the canal.

Spanish is the official language spoken by the majority of the population, with variations in accent and pronunciation in each province. Some indigenous groups speak their own languages and some of the negroes speak a peculiar version of English.

In many fundamental aspects, the folklore is perceived to have an African influence.

G. Policies and Laws Concerning Family Planning

Panama's interest in population programs was initiated in 1966 when the Panamanian Association for Family Planning (APLAFA) opened a pilot clinic in Panama City, and in succeeding years opened five more. This private organization is an affiliate of the International Planned Parenthood Federation.

By 1968 the Ministry of Health (MS) began developing a nationwide family planning program. A National Committee for Demographic Policy (APLAFA) was established to coordinate the program, a director was appointed, and APLAFA began to turn over its clinics to Government management.

APLAFA continues to maintain an active role in information and education. Activities have included local training courses; distribution of literature; promotion of family planning through press, radio, and TV; and motivational work among many groups.

Population/family planning policy has become clearly favorable in Panama. The MS is sponsoring wide TV, radio, and newspaper promotion, as well as billboard advertising and other activities, encouraging family planning participation.

The Family Planning Program of the MS, which last year offered services in over 49 clinics, is adding 15 more clinics this year. Nine one-week courses in family planning have been given in recent months to 400 health center, health committee, and Social Security representatives. A total of 1,600 citizens have attended community conferences on population and family planning. Four hundred primary school leaders have attended seminars on improving hygiene and sex education instruction in the country's school systems.

All the health facilities visited, including hospitals and health centers, are conducting MCH programs with Family Planning activities including education and services. In general, the patients prefer the "pill" rather than any mechanical contraceptive devices, since there has been a lot of misinformation and erroneous ideas about the use of the I.U.S. There is a mass educational campaign throughout the country via billboard, radio, and television (radio spots about family planning were constantly heard over the radio).

III. Health Administration, Responsibility and Activities

A. Official

The present "Revolutionary" Government lost no time in confronting the health problems of decades: limited funds and duplication of services, personnel and facilities. Three months after coming to power, the Government assigned the newly-created Ministry of Health (MS), which had previously been combined with Labor and Social Welfare, the task of devising and implementing a national health plan to integrate governmental, semi-autonomous and autonomous systems and to mobilize private and public resources for its support (Appendix C).

The Minister of Health based his planning on the following principles:

- directing all health activities toward the achievement of a higher level of health for all the people;
- effective community participation in the solution of its own health problems through an intense educative process which stimulates its organization;
- definition of an organized work plan to translate the above concepts into action;
- restructuring of the technical and administrative organization of the MS and consolidation of activities into four basic programs;

- incorporation into the body of MS, technicians, advisors from allied fields such as ecology, geography, demography, agronomy, sociology and anthropology in order to achieve greater understanding of communities' socio-economic factors;
- streamlining and fortifying administrative and legal support functions;
- increasing patient coverage through decentralization;
- improving personnel qualifications and selection procedures, and intensification of training programs at all levels;
- revision and implementation of more efficient utilization of physical facilities;
- to underscore the goal of reaching all the people, the renaming of the MS Department of Health Planning as the Department of Population and Health Planning.

Under the devised plan, the Ministry of Health has

four basic health programs:

Maternal-child (prenatal; partum; postpartum; fertility regulation; cancer detection; gynecology and family planning; nutrition; immunizations)

Adult Health (food-handlers control; venereal diseases; cancer control; cardiovascular diseases;

- accident prevention; mental health; tuberculosis)
- Environmental Sanitation (malaria eradication; milk pasteurization; community construction of water systems, latrines, sewerage systems)
- Administration (community organization and coordination with the other three basic health programs; MS printing and binding; audits; accounting; training)

The following administrative structure has been devised to implement the plan. The national level in Panama City includes the Minister, the Director General of Health (the chief executive officer), his assistant, four basic program directors, subsidiary program staff, technicians, and administrative and other support personnel (Appendix C, Table 2).

Following the structure to the regional level, the Regional Director (M.D.) reports through the Director General to the Minister. Budgets are prepared by each region and approved by the MS, while final decisions regarding hiring, firing and inter-regional transfers are made by the MS, after considering the regional director's recommendations. Salaries are paid directly by the MS. Regional hospitals serve as compilation points for monthly statistical reports from sub-centers, centers and sanitary areas. Regional hospitals also serve as referral centers for patients needing special attention, as well

as serving as home bases for mobile medical teams comprised of doctors, dentists, nutritionists, family planning educators, etc.

Each sanitary area includes several integrated medical centers (IMC) which consist of a small hospital with OPD and health center facilities. Under each IMC there are several health centers and sub-centers, staffed with auxiliary personnel (Appendix C, Table 3).

For example, health facilities for the 415,000 people in the Central Region now include 9 hospitals and 20 health centers, some of which are in the process of being converted to integrated medical centers. In addition there are 55 sub-centers and 155 points which are regularly visited by medical teams. Of the latter, 130 have already organized health committees.

The Integrated Health Plan depends on the development of organizational capability in each community. In December 1970, Government Decree No. 401 created Health Committees as legal entities, whose functions were to undertake the responsibility for developing local health priorities, resources and programs. (Appendix E) The number of such committees has grown from 40 in 1970 to more than 500 in mid-1972. The target is to have 1,500 Health Committees functioning by the end of 1974. Each sanitary area has a Federation of Health Committee Presidents and at the regional level there are Confederations.

The Community Health Program is divided into three basic components: (a) health services, (b) nutrition, and (c) water supply. In component (a) teams of MS technicians will work with the CHC's in providing immunizations, health education, maternal/child care, adult medicine, family planning, and improving sanitation. Component (b), nutrition, is designed to combat wide-spread malnutrition by educating the communities in the importance of a balanced diet and teaching them how to grow greater quantities of more nutritious foods. Equipment, fertilizer, insecticides and seeds will be supplied in conjunction with training to establish community gardens. The additional food produced will be for those who participate and provide a demonstration of the benefits of modern agricultural practices to the entire community. Component (c), water supply, will assist communities to build 200 rural aqueducts and install 1200 hand operated wells in those communities willing to provide the labor and able to pay the cost of maintaining the system.

It is the responsibility of each community through its elected Health Committee to identify and to assist in solving its health problems, drawing on the expertise of the technical team provided by the MS. Specifically, communities must resolve their problems of malnutrition, lack of potable water, and disease prevention, while groups of communities must

coordinate the solutions to problems of housing, electricity, roads, trash disposal and sewerage. Finally, each Sanitary Area Federation organizes resources relative to specialized services, the cost of medicines, hospitalizations, equipment, etc. Thus the central focus is on self-help to modify disease inducing conditions.

The reconnaissance team had the opportunity to observe an organizational meeting in a semi-rural area called Tocumen. The health seminar's purpose was to report the results of a house-to-house sample survey carried out previously by the health committee with the guidance of the technical team and local health center personnel. Impressive charts and graphs had been prepared by the specialists and were interpreted in layman's terms to the more than 150 community members participating. Excellently organized and conducted, the meeting began by distributing agenda. The gathering was divided into four discussion groups in separate rooms which elected their own presiding officer and a secretary. For example, after presentation of facts from the survey, the health educator retired to allow the group to reach a solution on its own. Specific discussion topics included potable water, nutrition, and environmental sanitation. Later, all participants reassembled and each group's secretary read their recommendations on each point and impromptu comments were encouraged. The Minister of Health

closed the meeting by making it perfectly clear that the MS was not there to do anything for the community; it was, however, willing to work with it to help overcome the problems. The next step, we were informed later by the MS, was to compile the recommendations and to convene a subsequent community meeting to map out specific courses of action. The openness of communication and active participation of so many residents were exciting to watch, and the Ministry's staff did a superb job.

The Ministry of Health does not pretend to have solved all its problems. The constraints of difficult access to remote areas, shortage of doctors, dentists and nurses, duplication of services and facilities remain. Finally, the MS acknowledges that it has not yet built in an effective evaluation/analysis instrument to determine the precise social and health impact of its program. It is in this evaluation of program elements that DEIDS might make its best contribution.

With all the problems he still faces, The Minister has taken steps toward closing the gap between what he calls "the normal curve of life" and Panama's. He is, in fact, "getting the doctors out of the hospitals to where the problems exist."

In addition to the delivery of health services through the Ministry of Health route, medical care is provided by the

Social Security Agency through the various hospitals and clinics it operates and through contract services in private facilities. The Social Security offers no organized programs for preventive medicine or for the community. The amalgamation of the Social Security health services into the Health Ministry's plan, already approved by the Government's Consultative Assembly, is now in the process of execution.

A large portion of curative care is provided by private physicians, some of whom work part-time for the Government. Most of this care is on an OPD basis, as there are only 250 private hospital beds in the country.

B. External Assistance

Assistance has been given to Panama by various bilateral and multilateral organizations. (See Table 5)

1. Bilateral - AID, CARE, Great Britain
2. Multilateral - PAHO/WHO, IDB, UNICEF, IPPF
3. Voluntary Organizations - Catholic Relief Services, Rockefeller Foundation, etc.

This assistance has been given as shown in Table 5, which is divided by type of programs supported. Recent support, present support, and some still forthcoming are included. The sums of money are only approximate since negotiations

are still underway in some cases and the actual expenditures were not available.

A U.S. Government (AID) Health Sector loan has just been authorized and is under final negotiations with the Government of Panama. It totals \$3,800,000 of which \$100,000 is earmarked for technical studies and evaluation. This loan represents an investment in the expansion of the present activities of the Ministry of Health for providing more effective health services and for reaching formerly inaccessible members of the population by decentralizing its activities and transferring personnel and resources into the rural areas. The proposed loan will provide resources to the MS integrated community health program both for potable water and community garden plot segments. The loan funds will also provide some transportation in support of basic health efforts in maternal/child care, adult health and health education.

C. The manpower and womanpower situation relative to physicians, nurses, auxiliary/nurses and dentists was as follows:

5.4 physicians/10,000 population

7.6 nurses/10,000 population

12 nurse auxiliaries/10,000 population

0.9 dentists/10,000 population

Two 1968 studies estimated that 700 physicians were

approximately 5.4 physicians per 10,000 people in the nation. This ratio is roughly one-half of the U.S. ratio and far surpasses the WHO minimum of one doctor per 10,000 people.

Approximately 70% of all physicians are located in Panama City which means that Panama City has more than double the national physician/population ratio. The concentration of physicians in the city of Colon also exceeds the national ratio. The province of Veraguas suffered a steady loss of physicians over the last five years, while the province of Darien had no increase. (Appendix C, Table 4)

At the present time the medical school of the University of Panama graduates 20 to 30 physicians a year. It continues to be customary for many students to attend medical school in other countries, primarily in Mexico and Brazil. All students must spend their first year of internship in one of the larger hospitals and their second year in a rural health situation. The same requirement applies to nurses and dentists.

It has been the hope of the Minister that a number of the personnel, after working in a rural setting, might choose to remain there. However, this has not been realized to any measurable extent. A number of doctors who originally came from rural areas, primarily with interests in pediatrics and public health, have chosen to remain in rural health

services. However, a large number of doctors, with whom our team had the opportunity of discussing future aspirations, planned on specializing in the United States or Brazil and practicing in an urban setting. The Minister of Health believes the only way to counteract this tendency is to change the form of medical education so that community health, in the terms he defines it, will be the basis. He does not plan on waiting too long before attempting this major alteration in the present curriculum.

A 1968 WHO survey listed 968 "fully qualified nurses," 24 assistant nurses and 1,397 auxiliary nurses. This means that the ratio of fully qualified nurses to practicing doctors is 1.3 to 1, less than the WHO minimum standard of 2 nurses for every physician. The distribution of nurses is essentially the same as that of physicians, with 70% located in the province of Panama, 5% in Colon, and surprisingly an additional 10% in Chiriqui. (Appendix C, Table 5)

In a country with limited health resources and personnel, nurses could be more widely and economically used for primary medical care; however, because of the relative shortage, this is not really possible. The conversion of the nursing education program to a degree program at the University of Panama may improve the quality but limit the quantity of trained nurses from that source.

The recent inauguration by the Minister of Health of a two-year school for nurses is one approach to relieve this problem. The present class (first) has 70 students and the subsequent ones are expected to have 200 per class. The Ministry realizes that the graduates will not have complete training, but they will be sufficiently trained for rural areas. Later, if assuming specialized or administrative duties, they will be sent for additional training. There was apparently a very high morale, with real pride on the part of the staff and students. The texts and references used indicate a heavy emphasis on family planning.

D. Budget

Approximately 17.5 % of the current governmental budget goes to the Ministry of Health. Because health care is delivered through several mechanisms (See III, A), it is difficult to determine the total amount spent for care. The present government recognizes health as an integral part of socio-economic development, and has regularly increased the Ministry of Health budget, absolutely and relatively.

The government is currently spending substantial additional amounts on medical care through the Social Security Agency. It also provides a liberal budget to an autonomous agency called the National Water and Sewerage Authority.

IV. DEIDS - Special Considerations and Criteria

A. Attitudes of USAID and MS of Panama

There can be no doubt as to the desire of USAID/Panama to have a DEIDS project under way in that country. The Health and Population Advisor of the Mission, the Mission Director and Assistant Director all expressed very strong support. They see DEIDS as introducing an important planning and evaluation activity into an evolving health delivery system, which is not different from DEIDS in general concept.

If the Minister of Health were not extremely interested in DEIDS, our invitation would not have been forthcoming. The Minister oriented us to his concepts for almost three hours at our first meeting and actually was present at many of the sites we visited in other parts of the country. He showed his intense interest in and appreciation for our visit by arranging a breakfast meeting with the President of the Republic. This would indicate more than the usual commitment.

B. AID/W and PAHO (WHO) Opinions

The Health Office of AID's technical Assistance Bureau, the Latin America Bureau of AID, and the Panama Desk were all positive in their support of our reconnaissance

visit. One reservation was regarding the relatively small population of Panama.

PAHO also supported our visit to Panama, distributing the APHA brochure on DEIDS to the Panamanian MS through its Representative.

C. Previous Health Innovations

1. The newly developing health delivery system of the present government is innovative, since it places the responsibility for its development and execution with the communities which are to be served.

2. The establishment of a two-year nurses' training program is designed to produce as quickly as possible the nursing staff necessary for the extension of rural health services.

3. The Ministry has recently established three separate training schools for nurse auxiliaries in different parts of the country.

4. During 1971 the Ministry of Health conducted 45 courses for the training of personnel at all levels: physicians, nurses, auxiliary nurses, laboratory technicians, sanitary inspectors. Orientation to health problems for non-technical personnel of the Ministry of Health and other Ministries and State Agencies has also been offered.

5. The Ministry of Health has persuaded the Ministry of Agriculture to collaborate in the imaginative approach to malnutrition which promotes community gardens (tended by an average of 20 families), production of fish and livestock (chickens, rabbits, pigs), and practical demonstrations by nutritionists, health educators and agronomists at the community level.

6. A special health center has been established in the central market of Panama City for the purpose of educating consumers in applied nutrition. The directress, a retired domestic science teacher with formal training from the University of Kansas, teaches housewives with limited economic resources the most thrifty ways to select and prepare nutritious foods. The experiences obtained in the pilot center will allow an expansion of these activities to other urban centers.

7. The system for funding local health centers appears unique and functional. All health centers charge a certain amount for their services and for drugs with only a 10% markup over cost. All monies are administered by the local health committee through an employee of the health center, whose salary is also paid by the committee. The money taken in by the centers also pays for much of the equipment of the center and for some construction and repairs. At some

of the health centers high school students are used on a voluntary basis in outreach activities. In one center visited, students with previous drug problems were being effectively used as volunteers.

8. Although various types of indigenous health practitioners, including unschooled midwives, herbologists, and witch-doctors can be found and are delivering services, they are not organized groups. Where Ministry services are introduced there is apparently an easy substitution of the allopathic-based system.

D. Readiness of Ministry of Health for DEIDS

Minister Esquivel has himself evolved a unique DEIDS-like project as previously indicated. Thus, the Ministry can be said to be "more than ready". In speaking with Dr. Esquivel, he said he is firm in his rationale for the extension of health services to all parts of Panama, especially the rural regions, through community-based control and activity. He sees no reason to change this approach, but realizes that there has been tremendous ferment and activity throughout the country in this regard without the benefit of well-organized evaluation. He said a DEIDS program would be welcome in Panama, especially in helping to evolve a good evaluative mechanism that would improve the health delivery

system. Any changes in the system shown to be advisable could then be implemented. In this regard it was felt by our group that, even if Panama were not chosen as the Latin American site for DEIDS, it would be well if arrangements could be made for the APHA to serve Panama for a period of 6-12 months to help develop an adequate evaluation and analysis system. This might help to make Panama's program relevant and adaptable to other small countries. The Ministry developed a "Geographic Medical Atlas" in 1970 which might serve as an excellent baseline on which to build an evaluation and analysis system.

E. The potential for involvement of other government departments and agencies has already been demonstrated by joint efforts with the Ministry of Agriculture to increase the production of vegetables and livestock aimed at improvement of family nutrition.

F. Institutional and Budgetary Support

It was evident that, if a DEIDS project were to be established in Panama, it would have its institutional base within the Ministry structure. The MS is definitely interested in developing the capability of its own staff in health planning and evaluation. Budgetary support would probably be available beyond the present investment in a region where a DEIDS project might be developed.

ITINERARYSeptember 23, 1972 (Saturday)

All team members arrived in Panama on the same plane, reaching the hotel at about 6:30 p.m.

September 24, 1972 (Sunday)

Two team members attended an all-day organizational "Seminar on Health and the Community" in a semi-rural area called Tocumen.

September 25, 1972 (Monday)

Three hours were spent with the Minister of Health, one of his staff, and the USAID/Panama Health and Population Officer. The remainder of the day was spent in visiting the Emiliano Ponce and San Felipe Health Centers of the Metropolitan Region as well as a health center in the central market that specializes in nutrition education. At night we attended a dinner given by the Minister of Health at the Union Club, where we met with central staff of the Ministry as well as with some visiting health dignitaries.

September 26, 1972 (Tuesday)

The team members breakfasted with the President of Panama, His Excellency Señor Demetrio Lakas. Then we visited one other health center in the Metropolitan Region as well as the La Chorrera Health Center in the Eastern Region of Panama and the Nicolas Solano Hospital of that same region. We also visited the Cerro Cama Community Gardens in the northern part of that region. In the late afternoon we had a briefing with Mr. George Rublee, Assistant Director, USAID/Panama.

September 27, 1972 (Wednesday)

We visited the Aquilino Tejera and Cecillio A Castellano Health Centers of the Central Region of Panama, as well as the Regional Hospital Los Santos located in Chitre. We had the opportunity of visiting the new two-year School of Nursing established here. Also included in our visits was the Cañaveral Women's Garden, another community garden, and the rabbit raising program.

September 28, 1972 (Thursday)

We visited Health Centers 1, 2, 3 and 4 in the David Sanitary Area of the Western Region as well as the Western Regional Hospital José Domingo de Obaldia and

its Regional Health Office. We also visited the Health Center of Boquete, with its attached Maternity Station (maternity beds and pre- and post-natal attention), and that of Dolega, both in the highlands north of David. We saw the beginnings of a fish culture program.

In the late afternoon we attended a Seminar of Health Educators who came from various areas of Panama. We then went to a meeting of the Federation of Health Committees of the David Health Area, and finally to the graduation exercises of the Course for Auxiliary Nurses that has its base in the David Regional Hospital. We had a final discussion with the Minister of Health concerning our activities during the week. He was attending the same afternoon and evening events in David.

September 29, 1972 (Friday)

We returned to Panama City and had debriefing with the USAID Director and with the Health and Population Advisor.

Appendix B

Contact List

José Renán Esquivel, M.D. - Minister of Health

Esteven López, M.D. - Director General of Health

Edilberto Morales, M.D. - Ministry of Health Program
Development Advisor and Chief of Epidemiology in MOH

Julio Sandoval, M.D. - Chief of the Metropolitan Health
Region

Adolfo O. Arias P., M.D. - Director of Adult Health Program

Ernesto Rothery, M.D. - Chief of Eastern Health Region

Antonio Aversa, M.D. - Chief of the Sanitary Area La Chorrera

Ernesto Echevers T., M.D. - Chief of Central Health Region

Olmedo Novoa, M.D., Chief of Eastern Health Region

Julián Fernandez, M.D. - Chief of Sanitary Area of David

Moreno, M.D. - Chief of Hospital of Los Santos and of
Los Santos Santos Sanitary Area

Eduviges Arauz - President of the Federation of Health
Committees of the David Sanitary Area

Luis Carlos Rabelo, M.D. - Director of Health Center of David

Alexander Firfer - USAID Director

George Rublee - USAID Assistant Director

Ernest Feigenbaum, M.D. - Health and Population Advisor, USAID

(Note: Above list includes only the principals in each
organization and not the staff members with whom we spoke)

TABLE 1

Region or Country	Population Estimates 1945-1972 (millions)	Annual Births per 1,000 Population	Annual Deaths per 1,000 Population	Annual Rate of Population Growth (percent)	Number of Years to Double Population	Population Projections to 1985 (millions)	Annual Deaths under One Year of Age per 1,000 Live Births	Population under 15 years (percent)	Population over 64 years (percent)	Percent of Population in Cities of 100,000+	Per Capita Gross National Product (US \$)
MIDDLE AMERICA	72	43	11	3.2	22	112	—	46	3	20	—
Costa Rica	1.9	34	7	2.7	26	3.2	67	48	L	25	510
El Salvador	3.7	40	10	3.0	23	5.9	67	45	L	14	290
Guatemala	5.4	43	17	2.6	27	7.9	92	46	L	15	350
Honduras	2.9	49	17	3.2	22	4.6	—	47	L	10	260
Mexico	54.3	43	10	3.3	21	84.4	69	46	L	21	580
Nicaragua	2.2	46	17	2.9	24	3.3	—	48	L	18	380
Panama	1.5	38	9	3.3	24	2.5	41	44	L	30	660

Source: 1972 World Population Data Sheet - Population Reference Bureau, Inc.

L = Estimated to be less than 5%

TABLE 2 - ORGANIZATION OF THE MINISTRY OF HEALTH AT THE EXECUTIVE LEVELS

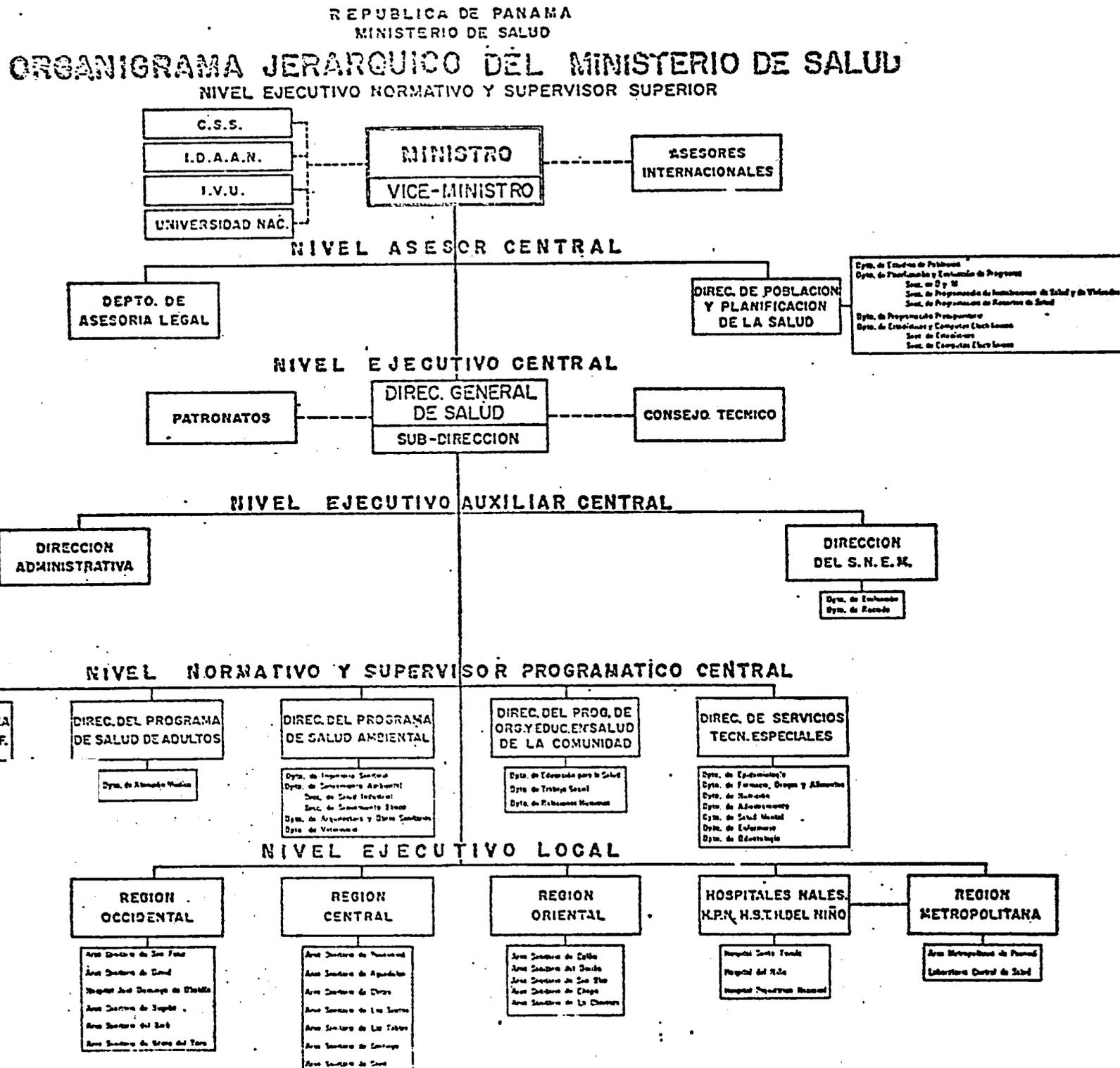


TABLE 3: ORGANIZATION OF THE CENTRAL HEALTH REGION

MINISTRO DE SALUD

DIR. GRAL. DE SALUD

JEFE R. CENTRAL DE SALUD

NIVEL

SUPERVISOR.

SUPERVISOR VETERINARIO

VETERINARIA

SUPERVISOR SANEDUCACION ACADÉMICA

EDUCACION ACADÉMICA

SUPERVISOR EDUCACION PARA LA SALUD

EDUCACION PARA LA SALUD

SUPERVISOR NUTRICION.

NUTRICION LOCAL.

ADMINISTRACION.

ADMINISTRACION

SUPERVISOR ENFERMERIA

NURSING

UNIDAD EJECUTIVA

UNIDAD EJECUTIVA

UNIDAD EJECUTIVA

AREA SANITARIA DE PENONOME

C.M.E. AQUILINO TESERA

CENTROS Y SUB-CENTROS DE SALUD

AREA SANITARIA DE AGUADULCE

C.M.E. MADRES ROBLE

CENTROS Y SUB-CENTROS DE SALUD

AREA SANITARIA DE CHITRE

C.M.E. CECILIA CASTILERO

CENTROS Y SUB-CENTROS DE SALUD

AREA SANITARIA DE LOS SANTOS

HOSPITAL REGIONAL DE BOBILLO

CENTROS Y SUB-CENTROS DE SALUD

AREA SANITARIA DE LAS TABLAS

C.M.E. GUARDIANO DE LEGUI

CENTROS Y SUB-CENTROS DE SALUD

AREA SANITARIA DE SANTIAGO

C.M.E. DE SANTIAGO

CENTROS Y SUB-CENTROS DE SALUD

AREA SANITARIA DE SONA

C.M.E. EZEQUIEL ABADIA

CENTROS Y SUB-CENTROS DE SALUD

TABLE 4

PANAMA: PRACTICING PHYSICIANS BY PROVINCE AND FOR THE CITIES OF PANAMA AND COLON, 1964 - 1968

Province and City	1964		1965		1966		1967		1968 (prov.)	
	Total Population (1)	Rate/10,000	Total Population (1)	Rate/10,000	Total Population (1)	Rate/10,000	Total Population (1)	Rate/10,000	Total Population (1)	Rate/ 10,000 Population (1)
Total	<u>534</u>	<u>4.6</u>	<u>585</u>	<u>5.0</u>	<u>639</u>	<u>5.2</u>	<u>644</u>	<u>5.1</u>	<u>702</u>	<u>5.4</u>
Zocas del Toro	8	3.4	7	2.8	7	2.7	9	3.4	9	3.2
Cocle	19	1.8	22	2.1	27	2.5	22	2.0	22	1.9
Colon (2)	37	4.0	38	4.0	40	4.1	35	3.6	42	4.2
Colon City	36	4.0	37	5.9	39	6.1	35	5.4	42	6.5
Chiriqui	55	2.8	50	2.5	65	3.2	62	2.9	58	2.6
Darien	3	1.9	3	1.9	2	1.2	2	1.2	2	1.1
Herrera	17	2.5	19	2.8	19	2.7	21	2.9	22	3.0
Los Santos	16	2.1	15	2.0	16	2.0	16	2.0	23	2.8
Panama (2)	359	8.3	415	9.1	445	9.3	452	9.3	512	9.9
Panama City	343	10.8	392	11.9	422	12.3	442	12.3	491	13.2
Veraguas	20	1.4	17	1.2	18	1.2	15	1.0	12	0.8

(1) Rates based upon midyear population estimates for each respective year excludes "indigenous" population

(2) Figures include respective city

SOURCE: PANAMA EN CIFRAS, 1969

TABLE 5

PANAMA, PRACTICING NURSES BY PROVINCE AND FOR THE CITIES OF PANAMA AND COLON, 1964 - 1968

Province and City	1964		1965		1966		1967		1968 (prov.)	
	Total	Rate/10,000 Population (1)	Total	Rate/10,000 Population (1)						
Total	290	6.2	351	6.8	450	7.0	524	7.1	596	7.6
Bocas del Toro	11	4.6	13	5.3	13	5.1	14	5.2	16	5.7
Cocle	23	2.1	29	2.7	26	2.4	33	3.0	31	2.7
Colon (2)	34	5.8	33	5.6	36	5.8	63	6.5	63	6.3
Colon City	34	8.6	32	8.3	35	8.7	63	9.8	63	9.7
Chiriqui	64	3.3	36	2.8	84	4.1	62	3.9	110	5.0
Darien	4	2.5	5	3.1	4	2.4	6	3.5	5	2.8
Herrera	23	3.4	22	3.2	18	2.5	22	3.0	25	3.4
Los Santos	14	1.8	12	1.6	16	2.0	21	2.6	26	3.2
Panama (2)	304	13.5	394	13.1	623	13.1	662	13.3	696	13.4
Panama City	344	17.3	354	16.8	382	16.9	623	17.4	654	17.5
Veraguas	14	1.0	16	1.1	20	1.4	21	1.4	24	1.4

(1) Respective midyear population estimates - excludes "indigenous" population

(2) Includes the respective city

SOURCE: PANAMA EN CIFRAS, 1969

PANAMA, PRACTICING DENTISTS BY PROVINCE AND FOR THE CITIES OF PANAMA AND COLON, 1964 - 1968

Province and City	1964		1965		1966		1967		1968 (prov.)	
	Total	Rate/10,000 Population (1)	Total	Rate/10,000 Population (1)						
Total	186	2.2	110	2.2	111	2.2	121	2.6	122	2.2
Bocas del Toro	1	4.3	1	4.1	1	3.9	1	3.7	1	3.5
Cocle	4	3.9	4	3.8	4	3.7	5	4.5	7	6.1
Colon (2)	9	9.7	11	11.6	9	9.9	10	10.2	8	8.0
Colon City	9	14.5	11	17.5	9	16.2	10	15.6	8	12.3
Chiriqui	12	6.3	13	6.6	13	6.4	15	7.1	16	6.4
Darien	0	0	0	0	1	6.0	1	3.0	1	3.6
Herrera	6	8.9	6	8.7	6	8.5	7	9.7	6	8.1
Los Santos	4	5.3	4	5.2	4	5.1	5	6.3	3	6.2
Panama (2)	65	15.2	66	16.5	67	16.1	71	16.3	60	15.4
Panama City	63	19.9	64	19.4	64	18.6	67	18.7	77	20.6
Veraguas	4	2.9	5	3.5	6	4.1	6	4.0	5	3.2

(1) Respective midyear population estimates - excludes "indigenous" population

(2) Includes the respective city

SOURCE: PANAMA EN CIFRAS, 1969

Appendix D

Organization of Health Services

Law (1) Cabinet Decree No. 1 - January 15, 1969, creating the Ministry of Health, pages 1-19.

(2) Decree No. 75 of February 27, 1969, establishes the Organizational Status of the Ministry of Health, pages 21-60.

Related to the Health Regions _____

Article 38: "The promotion, protection, restoration and rehabilitation of the health of the population on a national level will be conducted through a decentralized system of operation to the periphery. Executive Services: Medical-Sanitary Areas, Centers and Sub-Centers of Health, and Hospitals and specialized Institutions under the direction, regulation, coordination, supervision and evaluation of the Regional Directors of Health that constitute the superior authority in the corresponding jurisdiction", page 45.

Article 39: "The Regional Chiefs on the Health Regions are the responsible parties for coordination, consultation, supervision, control and evaluation of the services that are given in the Region," page 45.

Article 40: "The Regional Chiefs have the autonomy for the operation of the human and material resources", page 46.

Article 42: "The Regional Chief should be a Public Health specialist with a minimum of 5 years experience in his specialty" page 46.

Definitions

1. Region

The execution of the health programs is the responsibility of the four regions into which the country is divided. They have the following characteristics:

- a) Their base is a regional medical center and a series of satellite health institutions grouped to form a health sanitary area
- b) The Region administers and supervises the execution of the health programs in its jurisdiction
- c) It coordinates the functions of the health-sanitary areas themselves and also of the health activities of autonomous and private organizations
- d) The Region will be divided according to the size of the population and the size of the area into health-sanitary areas.

2. Sanitary Areas

For health purposes the Country (Panama) has been divided into 18 health areas, having the following characteristics:

- a) A geographical area which might include one or two political units called districts, with a minimal population of 20,000
- b) Must have a health institution offering integrated services

- c) There must be a net of communication between the location of the health institution and the largest number of towns which will be justified to have a health institution.

3. Institution

The institutions in the Ministry of Health had been classified in five categories:

- a) Integrated medical center (Centro Medico Integrado)
 - 1. Regional Integrated Medical Center
 - 2. Urban Integrated Medical Center
 - 3. Rural Integrated Medical Center
- b) Maternal Station (C.S.A.M.) Health Center
Maternal Station
- c) Pediatric Station (C.S.E.P.) Health Center
Pediatric Station
- d) Health Center
- e) Sub-Center of Health
- f) Mobile Unit

Programs: Article 64 - The formulation and study of the health programs should be initiated at a local level and it is the responsibility of the Chief of the Medical Sanitary Area.

HEALTH COMMITTEES

Cabinet Decree No. 401 of 1970¹ created Health Committees as legal entities intended to assume the responsibility for determining the health needs of their respective communities and for satisfying these through appropriate means. They are legally constituted of a General Assembly of the members of a community and they meet to elect their Board. The Committee of Health must be legally registered in its corresponding community. A series of By-laws determines the activities, functions, and responsibilities toward the communities and the Ministry of Health. The Health Committees consist of:

- a) A General Assembly
- b) A Board of Directors
- c) Working Committees

The Health Committees have the responsibility for their own auditing systems and their members have a civil responsibility and can be prosecuted by the misuse of the Committee funds.

Article 16 of the Decree mentions: "The Committees of Health within a Sanitary Area can form a Federation without losing their autonomy." This is already being done (See Attachment "II Seminario de Medicina Comunitaria" of the Federation of Health Committees of the David Area).

The following are criteria for communities in promoting and stimulating the formation of health committees:

¹Política y Programas de Medicina Comunitaria en Panamá 1968-1971, December 1971, pages 65-73.

- 1) Completely rural communities, with population fluctuating between 200 and 500 inhabitants
- 2) Large percentage of illiteracy
- 3) Lacking or deficient in an active social structural organization intended to solve their problems relating to the social and economic development of the community.
- 4) The health indicators indicate a high index of morbidity and mortality of preventable diseases and also a severe degree of undernourishment of its population
- 5) Lacking an adequate system of water-supply and of sewage and garbage disposal .
- 6) A deficit in the availability of food necessary for adequate nutrition of the population and lack of food production.
- 7) Inadequate levels of protection (vaccination) of the usual communicable diseases
- 8) Problems of land-tenure

It is required that all communities setting up a health committee undergo a health diagnosis including the following:

- 1) Demographic aspects
- 2) Economic structure - social and cultural characteristics
- 3) Health indicators
- 4) Agricultural and Fish Production
- 5) Nutritional habits

6) Information in regard to the history of the community

7) General information in regard to programs of official and private agencies

The Committee of Health is responsible for the development of activities in certain basic programs. There are standards developed for the following health programs¹:

1) Maternal Health Program

2) Infant and Pre-School Children Program

3) School Health Program

4) Environmental Health

a) Water supply

b) Sewage disposal

c) Garbage disposal

d) Food control

e) Water disposal

f) Housing

g) School environment

h) Veterinary health activities

i) Malaria eradication

j) Drugs, pharmaceutical products, food control

5) Adult Health

a) Food handlers

b) Post-natal program

c) Selected adult groups 40 years or over not incorporated to Social Security

d) Cancer, TB control

6) Screening Activities for

- a) Hypertension
- b) Diabetes
- c) Papanicolau for Ca. of the Cervix
- d) Glaucoma
- e) Skin and oral cancer
- f) Epidemiological Surveys
 - Accidents
 - Heart Diseases
 - Nutritional Diseases

7) Program for the Organization and Health Activities
of the Community

- a) Community organization activities
- b) Health Education Activities
- c) Activities in relation to the food consumption
- d) Activities in relation to the availability
and production of food