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REPORT OF THE CARIBBEAN
HEALTH SURVEY TEAM*

* Team included OIH/DPA staff - Scott Loomis, Julie Weissman,
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REPORT OF THE CARIBBEAN HEALTH SURVEY TEAM

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Introduction and Background

The Carter Administration has assigned a high priority to the strengthening of collaborative relations (including AID relations) with the countries of the Caribbean. In an effort to be more responsive to the development assistance requirements of the area, and based on the concerns of various national leaders from the region as expressed in conversations with senior Department of State and other Administration officials, three AID sectoral teams in Health, Agriculture, and Education were assembled to visit the English-speaking islands of the Eastern Caribbean.

In anticipation of this survey, Office of International Health/DHEW was requested by LA/DR to prepare, utilizing secondary sources, a comprehensive background document on the health situation in the English-speaking Caribbean. Based upon the information gathered in that document, a series of expert working groups were asked to present programming options in the following areas: communicable diseases/epidemiology; environmental health; management, infrastructure, planning and finance; manpower, nutrition and population. This material was used extensively by the health team for pre-departure briefing purposes and for subsequent comparison with data and observations

The purpose of the health team visit was: 1) to elicit views of the various island leaders as to their perceptions of the magnitude and nature of health problems and needs; 2) to ascertain the institutional capabilities of the individual islands relative to the delivery of health services, including the adequacy of their information and data bases for health sector planning; 3) to recommend guidelines for the near term AID strategy and possible project options for consideration, and 4) to identify needs and requirements for sector assessments or studies required to support any longer term programs.*

To achieve these ambitious goals in the limited time frame allotted, an extensive effort was made to prepare the team in Washington before leaving for the Caribbean. A formal scope of work and standardized forms were developed prior to departure for Barbados and the decision was made to divide the team into two survey units -- one group visiting the Windward Islands; the other the Leeward Islands. Each team was composed of people with complimentary disciplinary backgrounds (i.e., health, technical, financial, and policy). In Barbados, both groups met with various health and other development organizations and/or individuals to garner as much information as possible on existing or projected programs in the area as well as useful background information about individual islands.

* A copy of the team's full scope of work is contained in the Annex.

Upon completion of these activities in Barbados, the teams then separated and departed for the islands. The islands of Antigua, St. Kitts/Nevis, Anguilla, Montserrat, Grenada, St. Vincent, St. Lucia, and Barbados were all visited in a fourteen day period. Dominica had to be deleted from the itinerary due to a civil service strike at the time of the scheduled visit.

To accomplish the purpose(s) of the mission, two main types of data collection were used: personal interviews and accumulation of appropriate documents. The interviews were loosely structured with the goal being to ascertain host officials' perceptions of their health sector policy, priorities, problems, and major constraints. Generally, this type of questioning occurred over several meetings in different locations. On all islands, the Minister responsible for Health was interviewed at least once, and normally several times. Moreover, these meetings not only took place with high government officials, but also with mid-level and basic health workers in both the public and private sectors. Every effort was made to conduct these interviews in the work environment of the worker - i.e. health center, hospital, laboratory, etc. This, then, gave the team the opportunity to observe the nature and intensity of services offered. All information collected in this manner was compared for reliability, consistency, and validity. Any

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discrepancy between stated health needs and problems were duly noted. Further documentation of discrepancies or similarities between need and response was achieved through the collection of data on health status, demography, and the health care delivery system.

This report is divided into two sections. The first section contains a summary of the health setting, an identification of specific problem areas, and recommendations for programming. The second section consists of individual island reports providing more detailed information.

The Setting

I. Health Status

The Eastern Caribbean exhibits a mix of health problems characteristic of both the developing and the developed world. On the one hand, life expectancy exceeds 60 years of age and the major cause of death are cardiovascular diseases, stroke, neoplasms, hypertension, and diabetes - all of which are among the top causes of death in the United States and other highly industrialized societies. On the other hand, the greatest killers of children under the age of five are gastroenteritis, respiratory diseases and malnutrition. Even though mortality rates are generally well below the rates seen in South America, Africa and Asia, a good deal of unnecessary morbidity is attributable to gastro-intestinal disorders an

undernutrition. Generally, about half of the children under five are considered underweight for age.

Major communicable diseases such as malaria and cholera have not been recently reported from the Eastern Caribbean Islands (the most significant communicable disease problem is venereal disease). Nevertheless, the potential for severe disease outbreaks does exist. For example, the vectors for the transmission of dengue (*aedes aegypti*) still flourish on most of the islands. It is noteworthy that an increasing number of dengue cases are being reported from the Caribbean area. Typhoid fever is also present and there are occasional outbreaks of this disease. Attempts to find and treat carriers of the disease have been unsuccessful.

II. Population

Population growth is another issue of mounting concern in the area. Rapid population growth has been averted in the past because of a significant amount of emigration. Recently England and North America have begun to restrict immigration and so the traditional destinations are closed to many potential emigrants. Many are unable to emigrate and have resigned themselves to remaining on their home islands. Moreover, many previous emigrants have begun to return. Therefore, unless an appropriate balance between fertility and deaths can be established,

population pressures will become a serious problem within a decade.

The prospect of dividing the limited resources of the Islands among ever greater numbers of people and the resulting strain on the existing social and economic systems point strongly to the need for effective population policies and programs.

III. Environmental Sanitation

Environmental sanitation presents a problem to all of the islands; the health of the islands inhabitants is compromised by the insufficient supplies of potable water, the untreated sewage which often pollutes the shores of the islands, and the inadequate disposal of solid waste which provides breeding grounds for pests. Furthermore, the economic health of the tourist industry (a major foreign exchange earner for all the islands) depends upon the maintenance of an esthetically pleasing and healthy environment.

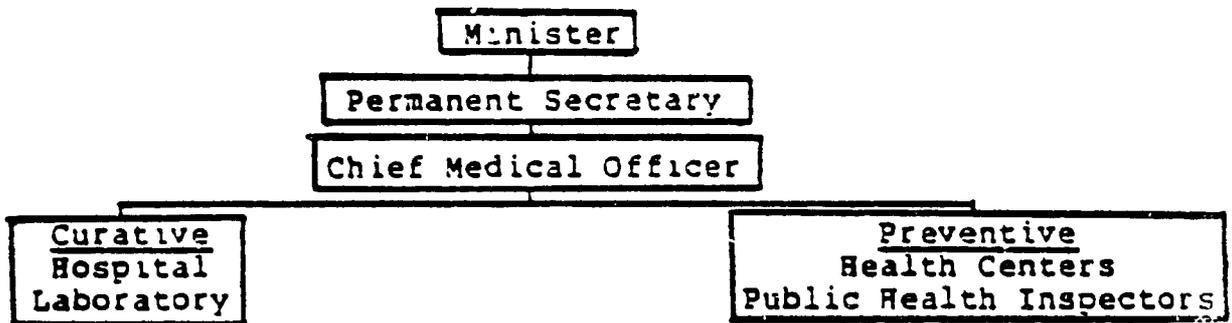
In summary, although problems exist, the health data indicate that compared to other areas of the developing world, the Eastern Caribbean area has relatively favorable conditions. Health does not appear to be seriously impeding economic and social development in this area. However, increased efficiency is desirable and warning signals point toward serious problems within the next 10 or 15 years if steps are not taken to formulate an effective and efficient health

system which is responsive to the present and future needs of the region.

IV. Health Systems

With the exception of St. Lucia and Barbados, there does not appear to be any articulated health policy or health plan on the islands. The health systems reflect the Western model of medical care that is highly physician-oriented. Any statement of goals is generally expressed in terms of the achievement of the perceived ideal model which is practiced in the West. There is a dual system of health care providers - public and private. In most islands, the two sectors either overlap or are tightly fused. Doctors commonly work in the public sector for a limited number of hours and then concentrate on their private practices.

On the public side, the organization of health services commonly follows the British colonial style. (See Organization Chart below).



The minister, usually a member of parliament, is appointed by the

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Prime Minister and generally has responsibilities in other sectors. (i.e. Education, Community Development, Social Welfare). The Minister provides policy direction and leadership. Directly under the Minister is the Permanent Secretary, a civil servant, who directs the administrative and financial affairs of the Ministry. This person is the senior administrator in the Ministry and usually has no technical training in health.

The Chief Medical Officer (CMO) is responsible for technical guidance of the curative and preventive health activities of the government. In reality, this person has the day-to-day responsibility for directing the operation of health services. (On some Islands, the responsibility of the CMO is limited to preventive services with a senior medical officer responsible for curative services.) Under the CMO, functions are divided into two basic categories; curative and preventive. The curative services include hospital and laboratory operations, which generally account for approximately 50-75% of the budget.

The preventive services are provided by a series of health centers manned regularly by public health nurses and periodically by doctors. Whereas the hospital facilities are located in urban centers, the health centers are scattered throughout the island providing more accessible health care. Activities in the centers include antenatal, child welfare, hypertension and diabetes,

family welfare, and immunization clinics. Moreover, primary care for minor ailments and injuries is normally available. The other important element of the preventive services is the public health inspectors who are responsible for the broad area of environmental sanitation.

Although doctors provide services to both arms of the health system, each side tends to work independently and, at times, in conflict with the other. Theoretically coordination is provided through the CMO, but in fact, that rarely occurs. This lack of coordination reflects a general weakness in management and planning. Support systems-maintenance, supply, laboratory-tend to be either weak or in some cases, non-existent. This can be attributed to several factors, some of which include insufficient staff, and/or inadequately trained and supervised staff, inefficient organization, lack of cooperation between ministries and inadequate supplies and equipment.

Water supply is generally the responsibility of another ministry or a semi-public water authority. The major problems cited are lack of a sufficient quantity of water, lack of catchment areas, inadequate development of collection systems where catchment areas are sufficient, and inadequate storage and distribution networks. Normally, less than half the population has household connections while the remainder of the population

get their water from standpipes, cisterns, or streams.

Sewage disposal is usually the responsibility of the Chief Public Health Inspector, although the construction of sewerage systems generally lays with Public Works. Few of the islands have complete sewerage systems. Most of the population use septic tanks and pit latrines.

Although it is difficult to evaluate the quality of manpower in a short survey, the impressions left were that the professional categories of health workers were well-trained, though perhaps not always appropriately trained for the needs of the region, while the support categories of workers were in many cases, inadequately trained. The doctors tend to concentrate on curative medicine, both in the hospitals and health centers. The nurses and the public health inspectors form the backbone of the preventive care systems. The public health nurses generally offer the first point of contact for the community, although in some cases, they are legally prohibited from providing primary health care. Nevertheless, they do offer preventive services through various functional clinics previously mentioned. Although they offer needed services, it is generally the case that they have not received the kind of public health education which would allow them to operate most effectively in the unsupported environment of the rural health clinic. The

situation is similar with the public health inspectors. They are responsible for a wide range of activities, however, only the Chief Public Health Inspector has received extensive training. The other inspectors often have minimal or no training.

In summary, the delivery of health care in the Caribbean is patterned after the Western model and demonstrates many of the same strengths and weaknesses. The major difference in the Islands is that the range of resources available is much more severely limited.

Regional Institutions

There are a variety of regional and multilateral institutions which are involved in the health programs of the Eastern Caribbean region. These include the Caribbean Community (CARICOM) Health Secretariat, the Caribbean Food and Nutrition Institute, the Caribbean Development Bank, and the University of the West Indies.

Utilization of these regional institutions has varied and has depended to a large extent on the recognition by the individual island of their potential usefulness and on the ability of the island government to use the institutions' resources. Inter-island rivalries and political and organizational problems within the islands have also influenced the use of the regional organizations.

Controversies have arisen as to the location of regional facilities, selection of personnel for training, project preparation requirements (in the case of the CDB), and differential benefits received by each island. The concept of cooperation through regional institutions is still new in the area, and it will take time for the islands to realize the potential benefits of regional cooperation.

Strategy

Taking into account the unique and substantial interests of the United States in the Caribbean, the limitations of the health delivery systems in the islands, the effects of the heal

systems on other sectors, and the prospects that the quality and efficiency of the systems are likely to become increasingly taxed in the next decade or so, the team believes that there is ample basis for modest AID assistance in the health sector in the Eastern Caribbean. The team recommends the following strategy for such assistance:

1. AID assistance should be provided in close coordination with other donors and institutions already in the area. Such coordination should include not only efforts to avoid duplication of existing assistance or severe taxation of the absorptive capacity of the island governments, but should also mean joint funding of projects with other donors where feasible.
2. AID assistance in the health sector should be on a regional basis or a combination of regional and bilateral programs. Although the islands' needs differ in intensity and to a lesser extent their character, the limited size of the individual health establishments raises serious questions concerning their ability to absorb intensive technical assistance on a bilateral basis at the present time. Capital assistance, on the other hand, would be feasible on either a regional or bilateral basis. (While the team wishes to note that the interests of island leaders was predominately for assistance on a bilateral basis).

3. Because the economies of the region are small and fragile and government revenues are limited, grant assistance should be utilized to maximum extent, especially for technical assistance.

4. Particular care must be given to the development of activities which do not generate large increases in recurrent costs. In fact, more cost-effective means for the delivery of health care should be one of our major objectives. Concessional lending appears feasible for the capital assistance activities recommended by the team. The team also believes that efforts should be undertaken to interest PVOs in meeting some of the discrete needs of the individual islands as referred to in the island reports.

5. AID assistance should generally support and encourage the practical integration of preventive and curative services in the area and the strengthening of preventive care approaches to health. Further, AID should encourage and support island governments in developing tools and personnel for better utilization of their current resources.

The team feels that the data base is adequate for identifying programming needs and that no comprehensive sector analysis or assessment should be undertaken. We feel that the actual programming of project assistance can and should be initiated now. The problem areas identified in the next section were

very clear from this survey effort and it is felt that additional study would not significantly change the composition of these problem areas. However, it will probably be necessary to implement specific analyses to determine the appropriate mix of components within a problem area and to help design the most effective and efficient projects.

Finally, the team recommends that a full-time, direct-hire advisor be placed at the regional office in Barbados to implement the recommendations contained herein.

Major Problem Areas and Suggested Programs

Within the framework of the proposed health strategy for the Eastern Caribbean, the team has identified the following health sector problem areas as deserving of AID assistance:

- Management and Planning;
- Water Supply;
- Nutrition;
- MCH;
- Manpower;
- Sewerage and Sanitation;
- Population.

It is important that these problems not be considered as discrete entities, but rather as interlinked elements of the health ecosystem. Therefore, assistance in one problem area may also have a significant impact on other areas.

The team utilized six criteria in defining the nature of the problem area and their relative rank importance:

1. Perceived needs by island authorities. The expressed needs of the host island officials served as the point of departure in determining problem areas. However, in many instances these articulated needs did not match the team's analysis of health needs, nor did they fall within the boundaries of the Congressional Mandate.

Perhaps, the overall weakness of the administrative system is best reflected in the information system. Data gathered in the hospital and in the St. Johns Health Centre are never linked. Moreover, the process of sending epidemiological data from the outlying clinics to the central health statistical unit was demonstrated to be weak by the fact that most M.D.s did not regularly send-in their morbidity statistics.

Finally, there is no written national health policy or health plan.

In summary, information on administration is really only available through interviews.

Permanent Secretary (Mr. Henry); Secretary for Institutions (Mr. Omerde); and the Chief Medical Officer, (Dr. Boyd). The Medical Advisor's established role is unclear, although it is obvious that Dr. Lake, who is the chief surgeon in the hospital, has a significant amount of influence. The P.S. is the highest civil servant in the ministry and plays the role of an executive officer - thus he is responsible for financial matters, personnel, and daily administration. The Secretary for Institutions is responsible for the three hospitals. The Chief Medical Officer has prime responsibility for what Antigua calls "Public Health" - or all of the health centers and clinics, environmental inspection, etc. Substantial amounts of written documentation on health administration do not appear to be available, although good quality information can be obtained through interviews.

Again, the data on supply, maintenance, and auxiliary health systems are not available in written form. Apparently, these systems are not well organized and it was indicated to us several times that assistance was needed in the specific areas of supply and maintenance.

Health planning per se does not exist on Antigua. Decisions are made on the basis of politics or to correct perceived problems in the physical infrastructure on an ad hoc basis, i.e. repairs to hospital.

There is some coordination between the various sectors, particularly the Public Utilities Authority and the Ministry of Home Affairs, but it can be characterized as weak.

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Data quality ranges from fair to good depending on the source. There are some discrepancies, for example, between the data compiled by the Statistics Division of the MOF and those of the Statistic Department of the MOHL. Overall though, these data are fairly reliable because they are based on events required to be reported by law. These data can be found in the Antigua Statistical Yearbook, 1976 and in the Attachments containing MOHL Statistic Department data.

NOTE: The MOHL data are the basis for the Statistical Yearbook.

III. B. Health Status Indicators

Health Status indicators are less reliable than the demographic data in that the health statistician must rely on the various health personnel to relay the data to her. From discussions with various health personnel including physicians, public health nurses, etc., it was ascertained that very few of the physicians reported at all. (This even included cases of scabies and pertussis (whooping cough). Apparently, the public health nurses do fill out the requisite form quite faithfully. The quality of the data is somewhat doubtful due to this underreporting.

In terms of the quantity and timeliness of the data, all categories are covered including 1976 with some supplementary data for 1977. The ICD index is used and is cross tabulated with other commonly-used indices in a supplementary chart.

C. Administration and Planning

Administratively, the responsibility for health lies with the Minister for Home Affairs, Mr. Freeland. A dated Organigram was made available, which demonstrated the lower administrative boundaries and lines of authority. (See organigram). There are four key positions - Medical Advisor (Dr. Lake);

Program started in 1973. All forms of FP services are provided. Professional staff consists of 15 nurse-midwives and 3 doctors, all part-time. Approximately 2000 active users of orals and condoms. Approximately 150 IUD insertions per year. Operates on a community based distribution basis. Seeks government encouragement.

(ii) Baptist dental clinics. Short-term teams from U.S. No data available.

C. Private Indigenous Sector (Discuss nature, magnitude, and most of their role in total health sector activities.

Private and Public Sectors overlap. MDs work in both sectors. Per estimates by the medical administration, MDs spend 30% of time in private practice. Twelve bed private hospital does exist but role is not clear. Extent of private practice limits considerably extent of public care by physicians, thus diminishing the quality. (Government salaries are very low) Regardless of amount of time spent in public service pay is the same, thus there is no incentive to work in public service. Popular demand is for physicians. Self referral is often towards private practices to increase degree of attention.

III. Data Availability (Quantity and Quality)

A. Demographic

The data covering demographic characteristics are quite complete. All the categories are covered until 1973 with the exception of migration. Two categories aren't really applicable in the case of Antigua, urban/rural breakdown and ethnic composition. The latter is homogeneous; the population is essentially of African origin. Urban/rural composition is not meaningful in view of the small size of this island. Most facilities are within 1/2 hour from any point on the island.

II. Non-Governmental Activities

A. Other Donors (For each donor discuss the nature, magnitude, timing, and duration of their involvement)

(i) U.K. Ec 4.8 million per year but very little in Health sector.

April 75 - March 76 assistance includes L 173,400 for refuse collection vehicles, & 78,935 for Potswork Water Distribution.

(ii) Peace Corps

Approximately seven PCVs work in Antigua in health related areas. These are dental hygiene, lab technology, medical records, deaf teacher, nurse, and paramedic stationed in Barbuda. All except the nurse are, in effect, filling regular positions within the health system.

(iii) PAHO

We were unable to get a complete picture of PAHO assistance to Antigua. Most notable current assistance is that in management. This regional project covers supply, maintenance, finance, personnel and overall administration. The PAHO adviser in maintenance under the regional project is stationed in Antigua for a period of 6-7 months. The manual which he will produce while in Antigua will be made available to the other islands and it is expected it will have relevance to the need there also. The adviser (Shelley, Rhule) is also providing on-the-job training for the maintenance personnel. Only one other expert under the Regional project was reported to have visited Antigua (Shelley).

B. P.V.O.'s

(i) IPPF, through the Antigua Planned Parenthood Assn., Bishippgate St., P.O. Box 419, St. John's, runs the only active FP program in Antigua.

Equipment and Material Support:

Boiler for autoclave
Stand-by generator for hospital
Intercom system dental equipment
Office equipment
Refurbishments of facilities (such as St. Johns and Holberton)
Up-grading of rural clinics to holding stations
Mortuary and ambulance

Training:

Dental education
Mental health nursing
Post-graduate medical
Continuing education for nurses in administration and
statistical utilization
Administrative training

Water Supply and Sewage Disposal Systems:

Capital Support

Supplies:

Drugs
Kits for community aides

Technical Assistance:

Environmental sanitation
Industrial pollution
Water supply systems
Maintenance

D. Priorities

With the possible exception of the Chief Medical Officer, the top governmental officials had not an ordered set of priorities beyond the desire for any kind of assistance, mostly direct staff or material support. Dr. Boyd did mention the need to address 4 or 5 key public health problems with malnutrition heading the list.

At the functional levels priority needs were seen as more supplies, equipment, and transportation.

E. Constraints to Reaching Goals and Priorities

Money: There was some mention of the need for improved management and administration - maintenance, coordination of services, better information system, and reduction of duplication of services. Take note of the fact that since no goals or priorities were really articulated, the constraints discussed were not seen in relation to the specific policy objectives. Finally, a key constraint was seen in the antiquated rigid public health legislation that prohibited such change.

F. Areas where AID assistance can be most helpful

The consensus was that AID (U.S. Government) should provide bilateral assistance for the provision of specialized staff, equipment, training, water and sanitation systems, supplies and technical assistance. Specific requests by top government health officials within these general categories include the following:

Staff of eight medical specialists including:

Pathologist

Dietician

Ophthalmologist

Radiologist

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Island: Antigua

I. Perceptions of Key Actors (Government)

A. Policy Goals

There is no formal written national health policy. However, there is a de facto ideal of a desired health system, i.e. a duplication of a modern U.S. style health care system. Moreover, health is seen as a vehicle for achieving certain key political considerations, such as employment.

B. Problem Areas (their evaluation of health situation)

At the top policy-making levels of the ministry, the health problems are seen simply as a lack of equipment, training, and specialists.

(There is no apparent distinction made between constraints and problems.)

At the functional levels of the Ministry, health problems are seen as more directly related to mortality and morbidity, i.e. Malnutrition, gastroenteritis, dental problems, MCH problems, immunizations, hypertension, diabetes, V.D., teenage pregnancy, water supply and sewage, and scabies. Some people did see management and maintenance as problems rather than as constraints to alleviating these functional problems. Environmental sanitation and industrial pollution were specifically identified by Dr. Boyd and Ministry of Planning as growing problems.

C. Nature, Scope, Intensity of Current System

Generally, most health officials at all levels feel that the nature and scope of the current system is appropriate to the needs of the population, but that the intensity (or type of services) needs to be improved. For example, the physician-oriented style of this system, covering a large majority of the population, which is now available is seen to be lacking only in sophistication complexity, and timeliness.

g) Health facilities and equipment:

- Numbers and distribution of various facility categories: hospitals, clinics, medical laboratories, etc., relevance to demonstrated needs
- Size of facilities and type of equipment, appropriateness
- Number of beds, population/bed ratios, relation to needs
- Utilization rates, occupancy rate, length of stay
- Quality of care: staff type/patient ratio, admission/discharge/deaths
- Maintenance; condition of existing structures and equipment
- Rate of production; public and private inputs/ projections

h) Pharmaceutical System:

- National formulary
- Number and distribution of pharmacies
- Production and distribution of drugs and pharmaceuticals (Manufacturing practices, storage, transportation)
- Quality control; national standards and regulations
- Training and licensing of pharmacists
- Role of pharmacists as deliverers of health care

i) Financing and Cost of Health Care:

- Financing mechanisms
 - . Contributions from private and public sector
 - . International, national, state, and local contributions
 - . Employer/employee contributions
- Budget allocations to health sector through various ministries
- Breakdown of allocations by capital and current expenditure; by category; salaries, administration, supplies, maintenance, direct services/operations
- Cost of health care: charges to individuals (public and private); percent of family income spent on health.

j) Anthropological/sociological aspects of health:

- Role of health in society
- Values towards health and health care system
- Traditional health practices and practitioners
- Attitudes towards breast-feeding
- Weaning practices
- Food "taboos"

- Utilization of services; types of services used; who are users; how often used'
 - Costs; by program, by utilization patterns, by investment budget, by operating budget, by categories of manpower
 - Quality and efficiency of services
 - Demand for health services (related to utilization pattern)
 - Government priorities; relationship of perceived health needs vs. actual programs
 - Specific programs
 - . Immunization
 - . MCH•
 - . Vector control
 - . Family Planning
 - . Medical Care
 - . Occupational Health
 - . Health Education
 - . Social security/social assistance programs
 - . Nutrition
 - 1) Nutrition education - both interpersonal (including use of growth charts) and mass media
 - 2) Supplemental feeding/MCH or school
 - 3) Weaning food availability
- e) Environmental Sanitation: Coverage, Quality and Cost
- Water supply
 - Excreta disposal
 - Refuse disposal
 - Food sanitation
- f) Manpower:
- Quantity of various personnel; population - personnel ratio
 - Staffing patterns for services/institutions
 - Distribution - geographic and institutional
 - Training; location, duration, cost, relevance to tasks, continuing education, and licensure
 - Rate of production; projection of need
 - Emigration

b) Health status indicators:

- Life expectancy; life tables
- Mortality rates by age and cause; infant and maternal mortality; percent of deaths under age five
- Morbidity rates by age and cause
 - . Infections and parasitic diseases
 - . Zoonoses
 - . Chronic diseases
 - . Malnutrition
 - . Mental Health
 - . Accidents
- Data on Malnutrition
 - . Gomez classification (1°, 2°, 3°) for PCX
 - . Food consumption data
 - . Vitamin A deficiency
 - . Goiter
 - . Fe deficiency anemia
 - . Other deficiencies
 - . Breastfeeding statistics
- Data on hospitalization and out-patient visits by disease category.

c) National administrative and planning capabilities:

- Organization and administration of health delivery system
- Supply, maintenance, and auxiliary health services
- Health planning and evaluation
 - . Planning process; capabilities, weaknesses, degree of coordination between sectors, institutionalization (local, regional and national)
 - . Information systems
- National health policy
 - . Health sector objectives
 - . Relationship of health sector objectives to other sector's objectives

d) Health Services:

- Who are principal providers of services
- Coverage; location of facilities/services, target population, service provided, referral system

Public Explanation of Trip Purpose:

a) Purpose of Team Visit: Sector consultation for the purpose of (i) obtaining country views on the magnitude and nature of health problems and needs, (ii) determining adequacy of the data base for longer term planning for health sector development, including resource availabilities, (iii) recommend for AID consideration an assistance strategy for the near term, (iv) identify possible projects for AID consideration.

b) Context of Team Visit: Team visit is a further manifestation of U.S. interest in Caribbean and is part of the continuing U.S. effort, through regional cooperation programs, of being responsive to the development assistance requirements of the Eastern Caribbean. The team is operating under direction of the AID Affairs Officer, Caribbean Regional Development Office, Bridgetown, Barbados.

c) Assistance Orientation: The U.S. Congress has established that AID assistance should be provided towards meeting the basic human needs of the poor majority. Within the health sector, priority emphasis is placed on low-cost health delivery systems, nutrition, preventive health, manpower development, environmental health and family planning, rather than on curative care or facility construction.

Principal Areas of Inquiry Relative to:

- a) Sector goals, priorities, problem areas and constraints.
- b) Nature, scope, and intensity of institutions and services.
- c) Actors or groups influencing decision-making.
- d) Activities supported by donors (past, current, and projected).
- e) Activities in private sector.

Suggested Outline for Data Categorization — Quantity and Quality:

- a) Demographic Characteristics of Population.
 - Crude birth and death rates, rate of natural increase
 - Density and geographic distribution
 - Rural-urban breakdown
 - Migration (internal/external)
 - Ethnic Composition
 - Marital status
 - Distribution by age and sex, sex ratio, percent under 5; dependency ratio
 - Literacy

SCOPE OF WORK

CARIBBEAN HEALTH SURVEY

Basic Objectives:

1. Identify through discussion with local and regional authorities problems and priority needs in the health sector.
2. Evaluate the potential (or capacity) of existing regional or local institutions for meeting these needs with external assistance.
3. Draft interim strategy statement to guide AID's near term program.
4. Prepare recommendations for AID assistance over the short-term working through regional institutions or mechanisms wherever appropriate.
5. Identify need and requirements for sector assessments or studies required to support short and longer term programs.

Probable Products:

1. Composite listing of priority needs in the health sector as viewed by LDCs.
2. Appraisal of capacity of local and regional institutions for meeting those needs:
 - With own resources
 - With external assistance
3. Listing of existing and committed external assistance to the sector with project synopses.
4. Recommended rationale (or alternative rationales) for near term AID assistance (Interim strategy statement).
5. Identification, ranking and preliminary development of projects for the short and medium term, including funding parameters.
6. Recommendation for future analysis/assessments in the health sector.

2. Another approach that should be investigated is the involvement of PVO's in latrinization programs in the lesser populated areas.

VII. Population

To date population pressures have been minimal in the Caribbean due in large part to substantial emigration. However, as the outward flow of people begins to ebb, population stresses may develop. This is particularly serious in those islands where the current balance between resources and people is precarious.

Also contributing to many of the health problems is the relatively high incidence of teenage pregnancies. Early out-of-wedlock child-bearing can have serious consequences for the health of the child, i.e. low birth weight and post-natal malnutrition, and for his social development.

Recognizing that other programming areas, particularly MCH, will have an important impact on these problems, the team feels that no new activities should be launched. Rather, the Office of Population/AID should continue to support regional and world-wide efforts (IPPA) which are having an impact in both public and private clinics in the Caribbean.

Foci for this support should continue to include the education sector, policy development, and mass communication efforts. Technical assistance in surgical procedures as laprascopy and tubal ligations is felt to be especially appropriate.

VI. Sewage and Sanitation

Sewage systems in the Islands, or more correctly the lack of same, create serious health problems and adverse economic side effects. Open sewers and drainage ditches offer a favorable breeding ground for vectors of disease and provide a hospitable environment for the microorganisms which cause typhoid, cholera, etc. The continued pumping of untreated sewage into the Caribbean contributes to the pollution of fishing areas and tourist beaches and may have unfortunate consequences for the ecology of the region.

1. Capital investment will be required to improve this situation. There are two alternative avenues for investment - the CDB and bilateral assistance. Investments would vary, depending on the existing situation. One possibility is the design and construction of treatment facilities and equipment for the pumping of septic tanks where this is the predominant and most feasible disposal system. Another is the design and/or implementation of previously designed sewerage systems in urban areas. Treatment facilities would also need to be included in some cases.

As with the development of water supply systems, rate structures do not reflect the operating costs of the current systems. Cost projections and new rate structures would need to be developed. Their development should be incorporated into personnel training efforts, as adequately trained administrative personnel are in short supply.

Manpower development should extend to operating, maintenance, and repair personnel and should be coordinated with the development of the system so that personnel will be ready to operate the new systems as soon as they are completed.

V. Manpower

The team feels that problems in this area are largely due to the inappropriate use and allocation of personnel. An attempt to focus on manpower planning is suggested under the management problem area.

Another suggested program addressing manpower concerns is included in the MCH heading.

There has been a history of many donors assisting in the training of health manpower, most of this on an ad hoc basis. On-going institutional efforts are based at the University of the West Indies and at the Allied Health Manpower training school in Barbados.

The suggested program in this area is the support of an effort initiated with UNICEF funds through the PAHO/UNDP program at the Allied Health Manpower school. This effort is to promote the concept and development of community health aides in the several islands. At present, initial programs have started in Antigua and St. Lucia. Other governments are interested in exploring this method of expanding basic services to underserved areas.

IV. Maternal Child Health

Fertile age women (15-44) and children under age 15 make up over half the population of the islands. Maternal and child health services account for a major proportion of inpatient and outpatient services on every island in the Eastern Caribbean region. Even at the Queen Elizabeth Hospital in Barbados, a major referral center for the region, obstetrics - gynecology and pediatrics accounted for 50% of admissions and almost one third of patient days in 1976.

The further development of MCH services on the islands will require assistance in several areas including manpower development, family planning (for spacing pregnancies and sterilization), management (for program planning including the development and analysis of information on morbidity), and nutrition (education and perhaps supplemental feeding for mother and child).

Since the major provider of MCH services is the nurse-midwife the team recommends that AID support be given to a project designed by the PAHO area Nurse Educator which would include post-basic training and continuing education programs aimed at providing nurses with those skills necessary for improved MCH services. A copy of this project proposal is on file in RDO/C. It is recommended that funding for this project be scheduled for FY 1979, or earlier if funding can be arranged.

III. Nutrition

The team recognizes that nutrition deficiencies represent a major health problem of children 0-5 years of age. However, no additional health sector interventions are recommended in view of previously planned collaboration with the Caribbean Food and Nutrition Institute. This proposed effort should provide the appropriate regional assistance in policy and program development, education, and applied research. Moreover, because the genesis of nutritional problems is so obviously multi-sectorial, including agriculture, the team prefers to await the reports of the other two sector survey teams before moving to specific recommendations. It should be noted that other proposed health sector programs can also be expected to make a significant impact on nutritional status. For example, the provision of sufficient quantities of clean water can greatly improve individual nutrient absorption, or the extension of an effective family life education program can reduce the incidence of teenage pregnancies.

There appears to be a direct correlation between the cessation of food supplementation programs and an increased incidence of malnutrition on many of the islands. Efforts should be made to ascertain whether this relationship is valid, and if it is, suggested strategies for appropriate distribution of food-stuffs to the needy should be made.

based on assessed valuation, however, few of the island governments have taken the unpopular position of favoring reassessments or increases in water rates.

Studies could be initiated to determine the future operating costs of the system. Design of a new rate schedule could begin, and rates could be increased gradually to reflect the costs associated with the increased water supply. New billing and collection systems could also be designed at the same time, and personnel could be trained to administer the new accounting system.

The CDB already has experience with water supply projects, in conjunction with CIDA, on many of the islands and has system profiles (existing and phased improvement requirements) for virtually all systems. It is recommended that CDB be asked to submit a package proposal covering this problem area. Initial funding would presumably be in FY 1980, unless funding can be arranged through re-programming at an earlier date.

Water

Water collection, storage, treatment, supply and distribution form the second area of concern relating to health in the islands. As gastroenteritis is the chief cause of morbidity and mortality in children and one of the chief causes of morbidity in adults, the provision of potable water to the entire population of each island would probably contribute to a decrease in morbidity.

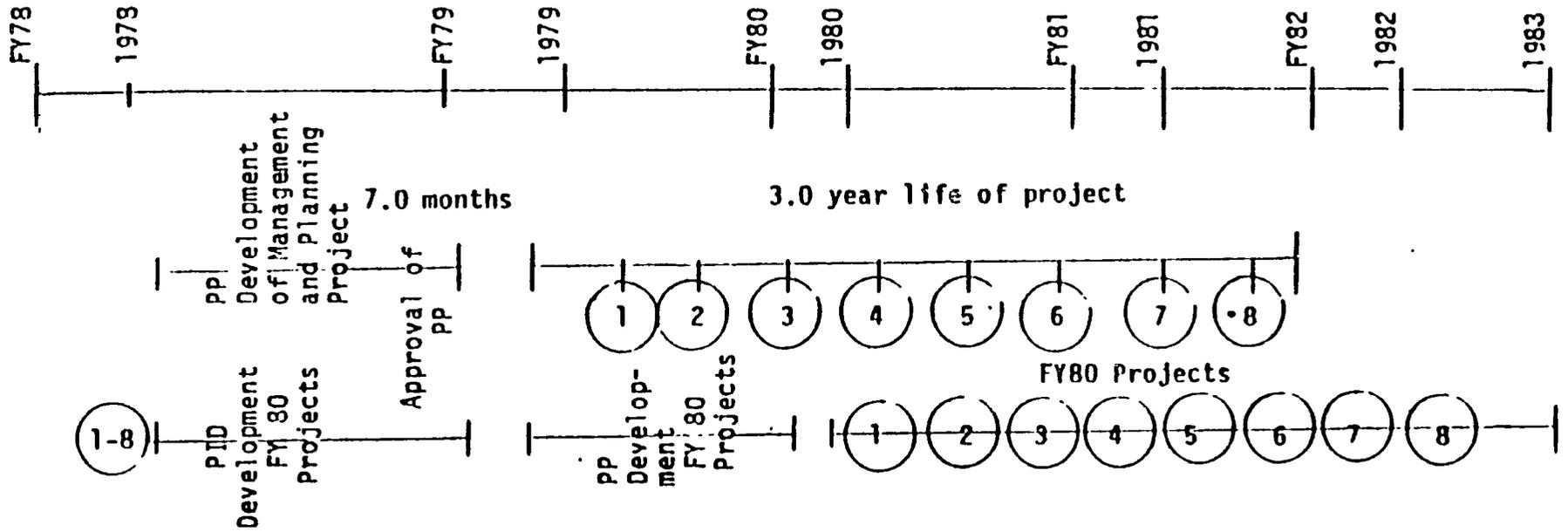
There are three major problem areas associated with water supply. The first is the physical inadequacies of the systems. The second is the lack of trained personnel to administer, operate, maintain, and repair the water supply systems. The third problem is finances.

Development assistance in water supplies should address all three problem areas. The physical development of the water supply systems could be approached through the establishment of a window in the Caribbean Development Bank for the capitalization of such projects. It is recommended that the loan agreements include provisions for the restructuring of water rates and for technical assistance in the form of personnel training.

The planning and construction of new capacity for water supply would probably require two-three years to implement. This would allow sufficient time to train personnel at all levels (administration, sanitary technicians, laboratory workers, maintenance and repair personnel). The training should include theory and applied learning as related to the development of the particular island's water system.

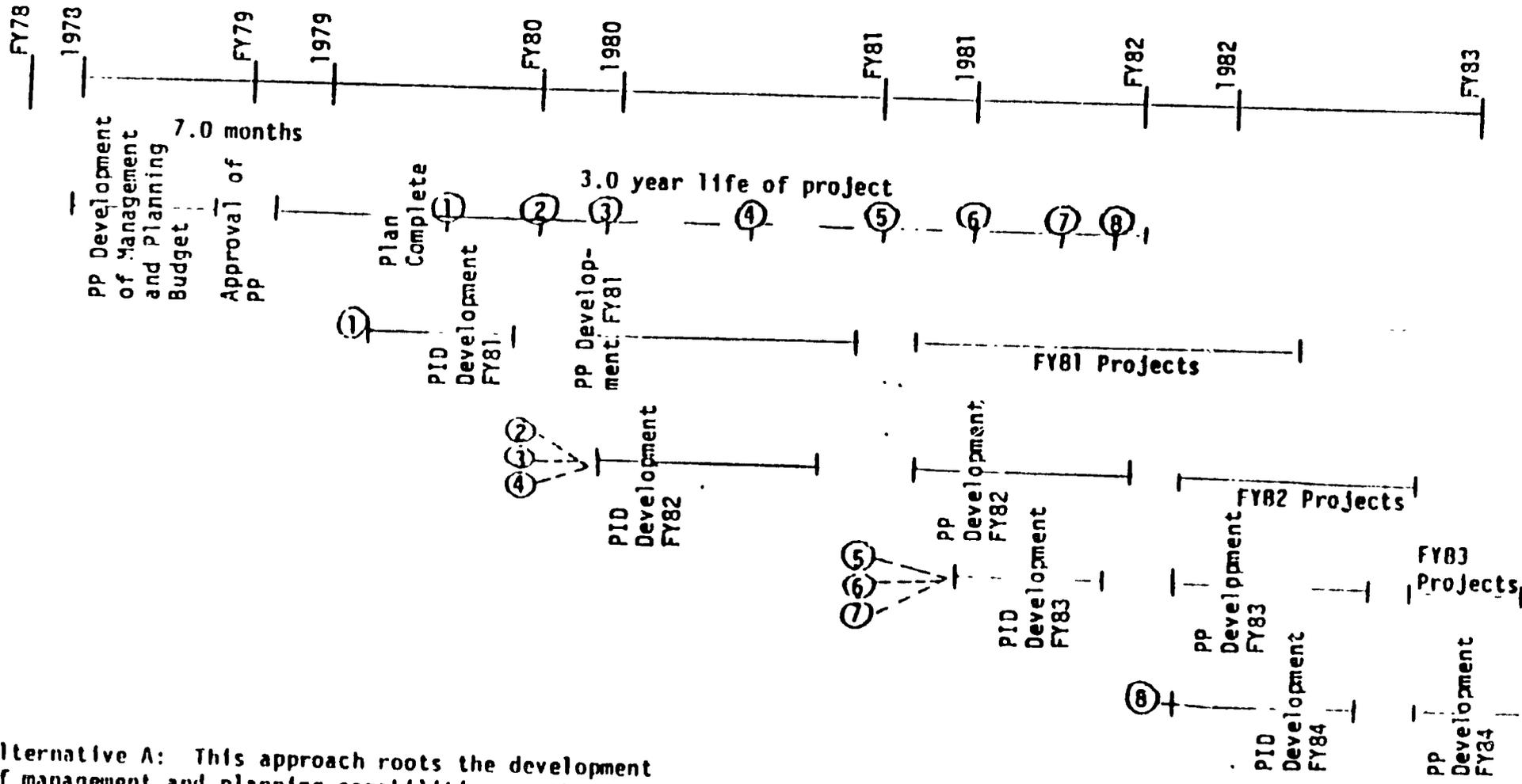
Present water rates do not cover the costs associated with the operation of the water systems on most of the islands. Some of the islands have the legislative authority to raise rates and to reassess property where rates are

Alternative C



Alternative C: This approach assumes parallel development of AID assistance with planning and management capacity building. One does not depend on the other, with linkages presumed.

Alternative A



Alternative A: This approach roots the development of management and planning capabilities as the foundation and the prerequisite for further program development. Thus programming in the region would essentially be done on a sequential basis vis-a-vis AID assistance.

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4. The forementioned projects would not only begin to answer some of the short-term problems, but would also begin to lay a strong institutional foundation for future program development and technical assistance. Alternatives A and C, as presented on the following pages 23 and 24, represent the two end-points of a continuum of programming options which AID might consider:

Alternative A assumes a direct link between the creation of an institutional capability in planning and management and AID assistance. In fact, this capacity building would be a pre-condition to the initiation of specific AID program proposals;

Alternative C assumes that AID programming and the planning and management (institution development) would occur simultaneously along parallel tracks. Phasing of management skills into the actual programming cycle would have to take place at a differentiated pace. The major problem would, of course, be the timing of this phasing.

There are a number of possible options for programming between Alternatives A and C, which explains the omission of an Alternative B.

1. The FY 1979 approved PID for basic health manpower be restructured to provide in-service, task-oriented training on each island focusing on health planning, organizational management, information system development, cost accounting, resource allocation, evaluation, and manpower staffing and development. Specific goals of this program would be to provide training, problem-specific manuals, a health plan, and project formulation guidelines.
2. A related area of administration development would be training, technical assistance, and commodity provision for the improvement of the drug, equipment, and material supply systems. This would concentrate on inventory procedures, ordering, storage, and distribution (including cold chain) methodology.
3. Another related area to be improved would be the maintenance and repair systems for transport, equipment, and facilities. A project would provide both training and technical assistance and would require as a host country contribution, permanent personnel to staff such a maintenance unit.

those particular areas for specific program development assistance needs relative to traditionally accepted assistance areas such as MCH, nutrition, and population were thus assigned a higher priority. However, this would not necessarily exclude the development of particular manpower skills related to either dental or mental health, especially if done within the framework of a larger manpower development program.

6. Potential for inter-donor cooperation and collaboration.

An important consideration for problem selection was the possibility of promoting regional donor cooperation in health.

I. Management and Planning

The prime obstacle to the effective delivery of health services was identified as the lack of management and planning skills. This is not a startling revelation. The Ministers for Health of the Caribbean and the CARICOM Health Secretariat have also designated management as the primary deficiency in their health delivery system.

The type of skills and attitudes required for good management and planning is fundamental to the successful design, implementation and evaluation of future health programs. In order to increase the chances of success for any related programming, these skills, i.e., management, administration, planning, accounting, information system development, etc., must be imbued in the existing island health systems. Therefore, the health team proposes that:

2. Likely impact on improving health status for the most vulnerable groups.

This criteria was a composite of the result of the team's observations and its analysis of relevant data to the extent available. This was the single most important criteria in determining the nature and order of the problem area categories.

3. Extent of problem area and availability of other external assistance.

As the team's terms of reference covered eight political entities, it necessarily assigned highest consideration to those problem areas common to all or most of the islands. Conversely, when other donor assistance was indicated to be available at the present time the team assigned priority to AID consideration only where there appeared to be significant gaps in the assistance available.

4. Amenable to successful intervention. Another critical factor was whether the perceived problem areas could, in fact, be addressed effectively and successfully.

5. Within tradition of past AID experience and Congressional Mandate.

The very nature of AID's development mandate limits the possible areas of intervention. For example, both mental health and dental care were recognized as problems on many of the islands, but past AID directives have not included

Island: Grenada

Zoonoses

Five people were treated for rabies in 1976. The mongoose is the principal reservoir of the disease. An eradication campaign and a study of the ecology of the mongoose are in progress. During 1976, over one thousand mongooses were captured and tested. Six were found to be rabid.

Data on Malnutrition

Most of the information in this section is based on a report conducted jointly by Miguel Guerl of CFNI and the Grenadian government, published April, 1976.

The purpose of the study was to collect information in order to assess the nutritional status of the pre-school children.

Sources of Data

1. Record cards at the following welfare clinics:
 1. St. George's Health Center in the Southwest
 2. Gouyave in the West
 3. Victoria in the Northwest
 4. Sautours Health Center in the North
 5. Grand Bras in the East
 6. St. David's Health Center in the South

Case examination limited to those who attended clinic during 1975 and the first three months of 1976.

2. Children from three small villages in the West (the L'Anse, Florida and Clozier) were randomly selected for a study on nutrition, anemia, and intestinal parasites carried out in 1975.

considered a serious problem, however, there are no statistics to support this. Cytology tests have only recently been performed on a routine basis, which may explain the discovery of this "new" major cause of morbidity.

There are periodic outbreaks of typhoid but attempts to isolate and treat suspected carriers of the disease have not been successful. Measles epidemics also occur every two to three years, as does dengue fever.

Responsibility for the collection of health statistics is not concentrated in one statistical bureau; instead, several offices are charged with the collection of data. The Statistical Office of the Ministry collects reports on malnutrition and communicable diseases while the General Hospital in St. George's collects information on the activities of the hospitals and outpatient clinics. The Annual Report of the Ministry is the only aggregation of health statistics. Because of the lack of detail in the report, it is impossible to derive seasonal disease patterns, monthly activity rates for health facilities or other utilization information. Disease patterns, according to the age and location of victims, can only be derived from the information recorded by the individual health centers. There is no analysis of the data which is collected.

Leading Causes of Morbidity in Grenada, 1975, As Reported by Hospitals and Outpatient Facilities:

73	Malnutrition	2302	Flu
840	Gastroenteritis	7	Ophthalmia neonatorum
16	Amoebic dysentery	18	Whooping cough
100	Bacillary dysentery	4	Rheumatic fever
8	TB	10	Infectious hepatitis
6	Meningitis	14	Pneumonia
12	Chicken pox	5	Acute nephritis
1	Measles	976	Venereal Diseases *all kinds

Source: Annual Report of the Grenada Ministry of Health, 1975

*211 Syphilis, 577 Gonococcal Infectious, 188 other Venereal diseases

Comparison between 1960 and 1970 distribution patterns reveals a trend towards a concentration of population in the Southwestern corner of the Island. It includes St. George's and St. David's where most of the recent tourism development has taken place. The intercensal growth rate of St. George's was 11.2% and that of St. David's 4.6%. Population rates for northern and eastern patterns remained more or less unchanged from 1960 levels.

B. Health Status

The macro-indicators of health status are better for Grenada than for the neighboring islands. In 1976, the birth rate was 25.9/1000 and the death rate 7.2/1000. Life expectancy is estimated to be well over 60 years for men and women. The infant mortality rate is low, at 27.6/1000 live births.

Birth and death registration is more than 95% complete because most births and deaths occur in the hospitals. The Registrar General's office records these events, as well as the causes of death. Although it was not possible to obtain current information concerning the causes of death, hypertension, diabetes mellitus and chronic heart disease are reported to be among the major causes.

Morbidity statistics for 1975 indicate that venereal diseases, influenza and gastroenteric infections are the most commonly treated health problems. The majority of hospital admissions are for normal deliveries (see table in Health Services section). Hypertension has been a major health problem in Grenada for at least a decade; recent investigations have revealed several cases of sickle cell anemia. Cervical cancer is also

Birth, Fertility and Death Rates

Low population growth during the 1960-70 period is partly explained by the declining birth rates. The crude birth rate, measured in number of births per thousand inhabitants, increased up to 1957 reaching its peak of 53.7 and has declined to 27.6 in 1974 (see UNDP/PP Population Census Report for periods 1950, 1966, 1960, and 1970). Table 2 shows that the number of births per thousand population was 44 in 1960 and 34 for 1970, indicating that the birth rate has declined in Grenada at a higher rate than in the region as a whole. Gross reproductive rates declined from 3.13 in 1960 to 2.25 in 1970 (Table 2). The crude death rate (measured as the number of deaths per thousand population) declined from 11.0 in 1960 to 8.0 in 1970 and the infant mortality rate (number of deaths during the first year of life per thousand live births) declined from 75 in 1960 to 33 in 1970. Both indexes are below regional averages. As a result of low mortality rates, life expectancy in Grenada is the highest in the region, 64 years for males and 70 years for females.

Population Distribution by Areas

The population of Grenada is fairly evenly distributed given the predominantly rural characteristics of the Island. However, a relatively small concentration occurs in St. George's parish, where the capital city of St. George's is located. Parish density in 1970 was 1,141 persons per square mile and in all other parishes the density ranges from 435 to 685 per square mile.

were skilled workers or trained professionals. This selected outflow has constituted a severe drain on Grenada's human resources.

Table 1
Population Projection

	<u>1970</u>	<u>%</u>	<u>1980</u>	<u>%</u>	<u>1990</u>	<u>%</u>
Total population	95.4	(100.0)	112.5	(100.0)	130.0	(100.0)
0-14	45.0	(47.2)	39.6	(35.2)	44.9	(34.5)
15-44	33.1	(34.7)	55.5	(49.3)	65.8	(50.6)
45-64	11.8	(12.4)	11.0	(9.8)	12.4	(9.6)
65+	5.5	(5.7)	6.4	(5.7)	7.0	(5.4)

	<u>1960-70</u>	<u>1970-80</u>	<u>1980-90</u>
Crude birth rate	3.1	2.7	2.5
Crude death rate	0.9	0.8	0.7
Natural Increase	2.4	2.1	2.0
Net Migration	-2.0	-0.6	-0.6
Net Increase Rate	0.5	1.66	1.46

Source: UN/PPU Grenada.1977

Population Age Groups

The age structure of the population remained constant during the 1960's according to U.N. population reports. Outmigration in the 15-34 age bracket was dominated by persons just entering the working force from ten to 14 years of age. The 0-14 year age cohort accounted for 47.2% of the total population in 1970 and is estimated to account for 35.2% by 1980. The next largest group (15-34) was only 34.7% of the total 1970 population. For other age groups and future trends see Table 1.

A. Demographic statistics summary:

	<u>1960-1970</u>	
Crude birth rate	37/1000 population	
Death rate	9/1000 population	
Natural increase rate	2.4	
Density average	600 per sq. mile	
Geographical distribution	(see Table 3)	
Migration (internal)	0.5	
Migration (external)	2.0	
Ethnic composition:		
Black	84.3%	
Mixed	11.1%	
White	0.7%	
Marital status:		
male	30% of population over 15	
female	64% unmarried	
	57% unmarried	
Distribution by		
Age		
0-14	1970	47.2%
15-44	1970	34.7%
45-64	1970	12.4%
65+	1970	5.7%

a) Demographic characteristics of population

Population Growth

During the last decade, annual out migration balance was more than 1900 migrants (see Table 1). Compound annual net migration rate during 1960-1970 intercensal period is given to be a minus 2.0%. Estimates from Table 1 indicate that net outmigration will continue at a declining rate through 1990. An OAS study of outmigration indicates that men and women contribute equally to the outflow.

(See Grenada proposed Physical Area Development Plan, prepared by UN/PPU, pp. 15-16.) The age composition of the outflow for 1960-70 period show almost 70% in the 15-34 age bracket. This represents the most productive years and many of these

IV. Evaluation of Actor's Perceptions vs. Situational Analysis

A. Does health policy, goals, and priorities match known health needs?

In only one case does priority and actual need coordinate, that is, supply and general management. In most cases, no attention is paid to health status and needs vis a vis services. Services are regarded as valuable entities with no re-evaluation of size and type of service in relation to changing needs and demands.

B. Is there enough information available to justify programming?

Yes, information base is good and clearly points out problem areas.

V. Recommendations for A.I.D.

H. Pharmaceutical System

Data fairly adequate although not reliable. System is outdated and inefficient.

I. Financing

The Ministry of Health receives about 15% of the total national budget for recurrent expenditures. Investment expenditures, on the other hand, are less than 1% of the total expenditures of the national government. Foreign assistance in health is limited to the provision of equipment. Per capita health expenditures are EC \$40.28 in 1976, which is similar to the amount spent in St. Vincent and St. Lucia. Over 50% is attributable to personnel costs. Although some fees are collected for private room hospital beds, laboratory tests, etc., revenues supply only 1.8% of the health budget. Program budgeting will be instituted in 1978 in an attempt to define program inputs and outputs.

J. Socio-antropological Aspects

Population is oriented to hospital-based care by physicians. Experimental health centers provide maternity services and are well staffed and equipped. They are often by-passed, however, in favor of the main hospital.

K. Other (Including extrasectoral impacts on health)

Other sectors impact chiefly as competition for budgeting resources. Other sectors, particularly agriculture and tourism, have priority. Tourism results in increased attention to water and sewage programs.

D. Health Services

Data adequate and fairly reliable. Services adequate although inefficient.

E. Environmental Sanitation

Water and waste disposal systems are inadequate, despite the availability of abundant natural water resources. Trained personnel are in short supply, therefore, management and maintenance of the existing systems is inadequate. Aid has been provided through CIDA and CCB for the extension of water facilities, and a master plan for the development of water resources has been drawn up. Any future aid will follow the priorities established in the plan. Vector control and rodent control are hampered by shortages of trained personnel, high personnel turnover, and lack of equipment. The manpower supply in veterinary science and food sanitation is also weak. Abattoir and refrigeration facilities are inadequate and meat inspection is performed at only one of seven sites on the island because of lack of personnel. Maintenance and repair of equipment are serious problems in all the above programs.

F. Manpower

Data available on number, types of manpower. Training and qualifications for entry into some areas blurred by political considerations.

G. Health Facilities and Equipment

Data adequate on facilities; equipment lists not up-to-date.

Table 2

GRENADA VITAL STATISTICAL INDICATORS FOR 1946, 1960 and 1970

	<u>Crude Birth Rate %</u>	<u>Crude Death Rate %</u>	<u>Natural Increase Rate %</u>	<u>Infant Mortality Rate %</u>	<u>General Fertility Rate %</u>	<u>Gross Reproductive Rate %</u>	<u>Life Expectancy</u>	
							<u>Male %</u>	<u>Female %</u>
1946	3.3	1.7	1.6	N/A	144	2.00	N/A	N/A
1960	4.4	1.1	3.3	7.5	231	3.13	60	66
1970	3.0	0.8	2.2	3.3	262	2.25	64	70
(1970 ECCM)	3.4	0.9	2.5	4.9	187	2.60 n	62	65

Source: Compiled by UNDP/PP; St. Lucia from 1946, 1960 and 1970
Population Census Results

- C. Private Indigeneous Sector (Discuss nature, magnitude, and impact of their role in total health sector activities)

Private sector intertwines with public sector. Physicians serve as District Medical Officer and conduct a private practice. All refer patients to hospital facilities.

III. Data Availability (Quantity and Quality)

A. Demographic

Data appears complete and accurate. Emigration statistics available and study by UNDP planning unit provides detailed internal migration patterns.

B. Health Status Indicators

Limited information is available. Vital registration is over 95% complete because births and deaths tend to occur in the hospital. Information gathering is divided between several offices. The Statistical Office of the MOH, which would be the logical place for the data collection and analysis, is limited to a tabulation of reported cases of communicable diseases and cases of malnutrition. No data analysis is done, and there does not appear to be any attempt to plan health programs on the basis of problems discovered through the systematic collection of information. Age, sex and seasonal distribution of diseases are not analyzed.

C. Administration and Planning

Organization information available. Planning is in a beginning stage of

I. Non-Governmental Activities

A. Other Donors (For each donor - discuss the nature, magnitude, timing and duration of their involvement)

Caribbean Community

B. P.V.O.s (For each, discuss the nature, magnitude, timing and duration of their involvement)

E. Constraints to Reaching Goals and Priorities

Major constraints are economic and political. General economic situation is bad, however, budgeted resources for health are not efficiently utilized. Manpower resources and processes are frequently subordinated to political considerations.

F. Areas where AID Assistance can be most useful

Island: St. Vincent

How Collected and Utilized

Consultant study PAHO and CIDA national review and plan - forms basis for CIDA supported investment in water - also being used for sewage plans and requests for funding.

Evaluation/Co s (Standardization of Data)

Island: St. Vincent

DATA AVAILABILITY

Title of Document/Information

Water Resources Study for St. Vincent and the Grenadines.

Source

CIDA (consultant firm)

Date

1971

Contents (See Outline)

Review of water sources, supply planning, sewage, financing problems and recommendations.

Island: St. Vincent

How Collected and Utilized

District nurses report monthly activities to central office.

Evaluation/Comments (Standardization of Data)

Impossible to determine state of accuracy for some items.

Others could be cross-checked.

by fact that the population served by each clinic

are by hand. Reports have not been totaled by year since 1975.

Monthly statistics for 1976 and 1977 were very incomplete. Apparently very little time or effort has been expended to keep these records accurate and up to date.

Island: St. Vincent

DATA AVAILABILITY

Title of Document/Information

Nursing report

Source

Chief Public Health Nurse

Date

1971-77

Contents (See Outline)

Monthly totals by clinic of type and number of services provided by nurses.

Annual totals of monthly information available 1971-74.

Island: St. Vincent

How Collected and Utilized

Preparation of health care financing portion of survey team report.

Evaluation/Comments (Standardization of Data)

Island: St. Vincent

DATA AVAILABILITY

Title of Document/Information

1977/78 Estimates of St. Vincent

Source

Ministry of Finance

Date

7/13/77

Contents (See Outline)

National Budget by Account

Summary of Revenues, Expenditures, Salary scale.

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OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Kirby	Chief Medical Stores	10/10	
Mr. Norris	Retired Medical Officer	10/10	
Mrs. Ina Morris	Principal Nursing Officer	10/10	
Ms. Young	Assistant Nursing Officer	10/10	Sharp
Mrs. BeBique	Matron Kingstown Hospital		
Ms. McKie	Chief Public Health Nurse		
Mrs. Dugan	Principal Nursery School		Very sharp and articulate

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Calnbridge	Chief Supervisor W.A.	10/11	
: Mr. J.A. Pompey	Assistant Secretary Minister of Finance	10/11	
Jaime Mantilla	Advisor from PAHO TO Water Authority	10/11	Provides technical assistance on PAHO program management of water supply system.

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OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Dr. F. Ballantyne	Med. Dir. Hospital	10/8	Physician in hospital and private practice - Vincention
Mr. John McBride	Hospital Admin. (Br. Ov. Dev.)	10/8	Englishman has been in hospital administration six years in St. Vincent.
Dr. Gun-Munro	Government Gen. and surgeon (ret)	10/8	Vincention with long experience in medical practice in St. Vincent and Bequia
Mr. Cato	Prime Minister	10/8	Head of majority political party
Mr. Russell	Minister of Health	10/8	Political appointee; 4 months in office, not very familiar with public health problems.
Oscar Cuffy	P.S. Health	10/8	Civil servant
Mr. Saunders	Division F.P. Assn.	10/8	
Dr. Gideon Cordice	Sr. Medical	10/8	Long experience in public and private medical practice in St. Vincent
Mr. Nichols	Actg. Mgr. Water Authority	10/8	Has been in job only two months.
Mr. Mounsey	Asst. Mgr. Water Authority	10/11	Does laboratory work
Mr. Bally	Chief Tech.		
Mr. Coombs	Officer-Min. P.H. Supt. P.H. Inspector		

	1977/78 Estimates of Capital Expenditure for Saint Vincent			Estimated Total Expenditure
	<u>Dev. Aid</u>	<u>Loans</u>	<u>Revenue</u>	
Ministry of Finance	\$1,427,229	\$1,575,000	\$50,000	\$3,052,229
Ministry of Home Affairs	474,088	-	-	474,088
Ministry of Education	660,000	-	-	716,068
Ministry Trade and Agriculture	1,548,998	850,000	37,000	2,471,998
Ministry Communications and works	5,534,030	5,295,000	100,000	10,929,030
Ministry of Health and Community Development	430,010	830,000	-	1,250,010
Judiciary	12,000	-	-	12,000
	10,122,354	8,540,000	243,068	18,305,422

Capital Expenditures Ministry of Health and Community Development

	<u>Dev. Aid Grants</u>	<u>Loans</u>	<u>Total Estimate</u>
Rural water Supplies	\$129,000		\$129,000
Hospital Improvements	2,000		2,000
Refurbish Hospitals*	300,000		300,000
Rewire Gen. Hospital	-		80,000
Electricity-Stand-by-Georgetown Hospital	10		10
Renovation for School Nursing			79,500
Water Development		\$820,000	820,000
TOTAL	\$430,010	\$820,000	1,409,510

*Not yet approved.

Summary of Budget - Ministry of Health (cont.)

1. Exchange Rate One \$U.S. = \$2.68EC
2. Georgetown, quia, Chateaubelair
3. Started in December, 1976, with UNFPA funds

SOURCE: Estimate of St. Vincent 1977/78

Summary of Budget - Ministry of Health

	<u>1976/77</u>	<u>1977/78</u>
Personnel	· \$EC	\$EC
Administration	50,160	20,520
Dispensary & Medical Stores	48,560	50,205
Nursing School	259,800	176,355
Hospital Administration	27,960	12,010
Hospital Staff	576,975	556,600
Laboratory Staff	26,540	25,710
X-Ray Department	35,996	35,810
Other Hospital Staff	144,980	163,005
Leper Hospital	17,260	17,220
Home for the Aged Poor	65,200	68,820
Mental Health Center	113,423	120,270
Community Health Services	363,215	367,268
Public Health Inspectors	77,805	78,255
Rural Hospitals ²	67,860	71,205
Family Planning ³	-	52,205
Salary Increase	523,800	531,000
	<hr/>	<hr/>
	2,399,533	2,346,458
<u>Supplies and Equipment</u>		
Drugs	571,000	599,000
Family Planning Program	-	10,700
Aedes Aegypti Campaign	-	50,000
Medical Institutions	796,940	824,290
Miscellaneous	13,000	15,150
	<hr/>	<hr/>

Although no information was readily available related to the expenditures on health care in the private sector, the twelve medical doctors who serve in the public health service also maintain private practice. Their incomes were estimated by one observer to range up to approximately EC\$2,000 per month in the main urban area. If an average income of \$2,000 EC is assumed for rural physicians, and \$15,000 EC for urban practitioners, about \$1.2 billion EC is spent on private physician care. There is in addition, one private hospital in Kingstown with one physician and 14 beds. The income generated there is unknown. The suggestion that Vincentians are either unwilling or unable to pay for medical care is not born out by these activities in the private sector. Per capita expenditures are probably over \$12.00 EC.

The capital investment budget for St. Vincent includes few health-related projects (see below). Major items include hospital renovation and water supply. Over 80% of the total capital investment budget is financed by external aid, primarily from the British Development Authority.

The hospital's current accounts receivable stands at \$150,000. Annual revenues are \$100,000. Bed charges range from \$1.00 per day to \$5.00 per day for a private room. Few people have health insurance.

I. Health Care Financing

The government of St. Vincent spends about 13% of its operating budget on health care every year. The budget for 1976/77 for the Ministry of Health and Community Development was approved at a level of \$783,908 EC for community development and \$3,677,783 EC for health. This is a per capita public expenditure of \$36.77 EC for health care. Expenditures are expected to increase to \$3.34 million EC in 1977/78.

Over 60% of the operating expenses are personnel costs. In 1976, 572 people were employed in jobs ranging from Minister to laundress. The largest single expense is the nursing staff of the main hospital - over \$400,000 EC is allocated for this purpose. In fact, even where services such as the dispensary, X-ray and laboratory services are excluded completely, (they are located in the hospital but serve the entire island) personnel costs for the main hospital add up to more than \$745,000 EC, or 30% of personnel costs. If these services are included as part of the hospital budget, almost 75% of personnel expenditures are attributable to the hospital. In contrast, less than \$200,000 EC is spent for nursing personnel assigned to outpatient facilities, and only three of twelve public health physicians are assigned to these services. The other nine physicians are attached to the hospital.

Estimates for 1977/78 are for a total operating budget of \$3.8 million EC with \$2.34 million EC for personnel and \$1.44 million EC for other expenses. There is no plan to reallocate health personnel from the hospital to health centers. The lion's share of the St. Vincent health budget supports curative, hospital-centered medical care.

Table I

Hospital Services: Rural Hospitals: 1975

<u>Hospital</u>	<u>No. of beds</u>	<u>Admissions</u>	<u>Discharges</u>	<u>Deaths</u>	<u>stay (days)</u>	<u>% occupancy</u>	<u>--- Days</u>
Bequia Casualty	10	187	180	3	8.3	41.4	1,511
Chateaubelain	20	217	211	6	5.6	19.2	1,402
Georgetown	23	692	619	19	5.5	40.9	3,431
Lewis Punnet Home (Grenadines)	120	21	-	13			
Mental Health	144	126	107	1			
Leper	22	2	-	2			

Leading Causes of Hospitalization (1975) Number of cases

1) Delivery without complications	124
2) Enteritis	99
3) Other external causes of injury	38
4) Infections of skin	29
5) Bronchitis, Emphysema, Asthma	28
6) Pneumonia	24
7) Hepatitis	24
8) Diabetes	18

SOURCE: Hospital Administration Annual Report, 1975.

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Ninety percent of the drugs and all of the equipment are ordered through the Crown agent in Britain. Annual orders are placed based on yearly budget. In addition, several ad hoc orders are made as urgent needs crop-up. Supplies are distributed to health clinics as requested. There is no transport system, and delivery of goods depends on the sporadic availability of one of two ambulances.

There appears to be both a chronic shortage of items and cost overruns. The amount budgeted for supplies and equipment is inadequate, however, such severe inefficiencies exist in the system that availability of items is reduced even further.

There is presently an attempt to establish a national formulary and a priority ranking of drugs so that the most vital ones will be covered by scarce resources. This effort is being carried out by a local committee and should be supported by PAHO technical assistance planned for 1978 in setting up a better drug ordering system.

The Minister of Health stated that he did not see any advantage to participating in the CARICOM drug ordering project.

Dispensers who attend clinics with District Medical Officers are trained through an apprentice system.

Maintenance of health facilities is practically non-existent. Some ad hoc repairs are done through the central maintenance office. Buildings are in average to poor condition. There is no equipment maintenance and little equipment repair. Repair for major equipment is dependent on a regional advisor from Trinidad.

Vehicles are either assigned to specific units i.e. one ambulance for each side of the island; or are distributed from a central government pool. In neither case is routine maintenance provided nor control of vehicles exercised by priorities.

Nearly all laboratory and X-ray work for the nation is done at the central hospital. Data on type of tests being done and relationship of services to demand was not available.

There is one ten bed private hospital that does normal deliveries and minor surgery. All complicated cases are sent to Barbados. Some public hospital patients' fare is paid by a small Ministry fund.

H. Pharmaceutical and Supply Systems

There are no national laws or licensing for drug import or pharmacists. There are three pharmacies on St. Vincent, more on the Grenadines. Pharmacists import from drug agents directly. They compound drugs but generally do not give injections. The major source of pharmaceuticals is the public sector. The supply section of the Ministry does the ordering for all health facilities.

Table II (Section G)
Kingstown General Hospital - 1975

<u>Service</u>	<u>Beds Available</u>	<u>Average Daily Occupancy</u>	<u>Percent Occupancy</u>	<u>Average stay in days</u>	<u>Admissions</u>	<u>Discharges</u>	<u>Death</u>
Medical	34	20	60	14.4	531	444	70
Surgical	63	26	42	10.3	933	907	31
Obstetrical	33	21	62	3.7	2,100	2,041	6
Pediatric							
General	30	25	84	14.8	631	542	71
Nutrition	24	17	71	74.8	56	56	27
Private	27	9	34	7.6	401	428	13
TOTAL	211	118	56	9.3	4,652	4,418	218

G. Health facilities and equipment

As stated under D, health centers total 33. There are three small regional hospitals, one large general and three specialty hospitals. A laboratory and X-ray unit at the Kingstown General Hospital serves the entire island.

Regional hospitals provide obstetrics and casualty care for the most part.

As can be seen from Table I, hospital occupancy is very low, and mainly consists of normal deliveries.

The Lewis Foret Home (Grenadines) provides custodial care for elderly destitute people, it was full at the time of the team visit, being staffed by one ward sister, and fourteen aides, or approximately one aide for every eight beds.

The Leper Hospital provides custodial care to elderly lepers, at the time of the team visit there were fourteen patients, cared for by one departmental sister, four aides, and two orderlies.

The Mental Health Center provides custodial care and some therapy. There is one psychiatrist or social worker at the hospital. 120 patients are cared for by one departmental sister, one staff sister and 26 aides.

The Kingstown General Hospital provides general medical, surgical care including casualty, and a special nutrition recuperation section. The hospital has five medical staff, 25 registered nurses, 17 ward sisters, 5 department sisters and a varying number of aides.

As can be seen from Table II, only the pediatrics service has an 80% occupancy rate. Nursing staff ratio is approximately one per four beds. These figures indicate the high cost and low utilization of the central facility.

Table 1
Manpower

Kingstown Hospital

<u>Positions</u>	<u>Filled</u>
R.N.'s 67	25
Nursing 70 Assistant	47
Ward 17 Sister	17
Dept. 5 Sister	5
Physicians	4

Geriatric Hospital

Staff nurses 3	0
Nursing aides 14	14
Ward sister 1	1

Leper Hospital

Dept. sister 1	1
Nursing aides 7	4
Orderlies 2	2

Mental Hospital

Senior Ward sister 1	0
Dept. sister 2	1
Staff sister 4	1
Nursing aides 29	26

District Medical Officer (6)	6
Community Health Aides (12)	12
Public Health Nurses (4)	
District Nurses (29)	33
Public Health 15 positions--10 filled	

for local training. There are 11 candidates in the six month course two of which are Vincentians. Additionally, there is a one year course nutrition with 13 candidates, 2 of which are Vincentian. These courses are being given at the CFNI.

40 will remain in Jamaica. The smaller islands must share the rest. St. Vincent had two students who graduated from UWI within the last three years, however, they both emigrated to the U.S.

The basic selection criteria for nurses and other technical field nurses requires a minimum of three "O" levels on the GCE (general certificate of education). Druggists are no longer trained in St. Vincent, but must now go to Barbados. For the past three years there has been no nurse training, but with unexpected migration of nurses to the U.S., St. Vincent has started to train more nurses. Students are trained at government expense in exchange for agreement to return to work for the government, but many have not been returning due to low pay, and lack of incentives for training and mobility.

Current training is focused on: 2 radiographers to be trained in Barbados starting February 1978 - 6 nurses to begin training locally 10/17/77 - 9 allied health personnel including 2 public health inspectors, 1 sanitary technician, 2 dental assistants, 2 X-ray lab technicians, and 2 graduate nurses in community medicine will be trained in the Bahamas. Additionally, PAHO has trained 3 graduate nurses in Nutrition. The government of St. Vincent opened a Health Science School in October, 1977, which is designed to do all necessary training in nursing and allied areas in-country. The success of such a school is doubtful given the resources available to it.

Currently there is no nutrition policy in St. Vincent, the Nutrition officer is working with CFNI to develop one, and it is expected to be ready soon. There have been a fragmented series of activities relating to nutrition programs, including Nutrition Education for Nurses which is provided by funds

limited to the M.D.'s, it includes nurses, auxiliaries, and paramedicals as well. St. Vincent's scarce resources are being used to subsidize the medical education of physicians and other medical personnel who emigrate to the U.S., Canada, and Great Britain. Additionally, a fair number are emigrating to Jamaica.

Number and Distribution

St. Vincent has in the past, concentrated much of its funds on the training of medical specialists. However, the mass emigration of those and other professionals to areas outside St. Vincent has led to a re-examination of thinking on the benefits of utilizing and training large numbers of physicians and graduate nurses. As stated above only 13 of the 19 doctors in St. Vincent are practicing, and only 5 of the 13 occupy government positions. Of the five government physicians currently practicing three work in the general hospital in Kingstown with the other two located at local hospitals in Georgetown, Beckwith and Chateaubelair.

The number of nurses available per 10,000 population is 10.0. There are 100 nurses including 50 staff nurses, 17 ward sisters and 33 district nurses (including 4 public health nurses) - (per conversation with the Permanent Secretary of Health and Senior Nurse's supervisor), public health nurse ratio per 10,000 (0.4) and public inspector (1.0) per 10,000 population. For other categories see the manpower staffing pattern (Table 1).

Training

Medical education for doctors is at UWI. UWI graduates about 75 doctors per year. Of this number about 15-30 will emigrate to the U.S. and an estimated

F. Manpower

The problem facing St. Vincent's health sector is compounded by the lack of a comprehensive policy or planning body to effectively formulate health manpower programming. The composition and distribution of health manpower resources in St. Vincent is oriented towards an urban health delivery system, leaving the rural areas of the country severely under-staffed and under-served. The low productivity of health professionals, particularly nurses is accentuated by the shortage of paramedical health personnel. Missing and alarmingly so is the lack of a comprehensive plan to provide the necessary training for professionals, managers, technical and maintenance personnel in the health field.

Another problem that must be examined in discussing manpower development in St. Vincent is the lack of training facilities and the constraints this places on professional and paraprofessional health workers. For example, except for the the nursing school and a local technical school (which is not utilized to train government workers) there is no formalized local training available to Vincentians.

There are two very serious problems affecting the distribution of health personnel which St. Vincent must confront: (1) Inter-Island and inter-regional migration and (2) the "medical brain drain." Although in the past more than 70 Vincentians have been trained as M.D.'s, currently there is only one native Vincentian practicing medicine in St. Vincent. Even though there are currently 19 M.D.'s in St. Vincent, only 13 are practicing physicians, hence 12 of the 13 are of foreign backgrounds. But, the brain drain is not

resources is so high that even the transportation of water from St. Vincent has been considered ; a possible alternative solution.

for trenching operations. The area is a prime breeding ground for rodents and flies. In other areas, there is no mechanical equipment for this task. Even wheelbarrows are used to collect refuse which is then either buried or dumped on the outskirts of town. There is no adequate means of sanitary refuse disposal.

Food Sanitation

There are ten Public Health Inspectors currently employed by the Ministry of Health in St. Vincent (there are also five vacancies.) The Inspectors are responsible for the inspection of the abattoirs and the animals slaughtered there in addition to their other duties as sanitary inspectors. The main abattoir in Kingstown slaughters approximately 30 head of cattle and 30 pigs each week. The abattoir is considerably larger than is necessary for such limited operations. Because of personnel shortages, there is no time to do the antemortem inspection; only post-mortem examinations are made.

Vector Control

Aedes aegypti was declared eradicated in St. Vincent a few years ago and so the program was discontinued. In the past year, it has reappeared and so spraying operations have resumed.

There is no program for rodent control. Although the mongoose is present on the Island, it is not infected with rabies.

The Grenadine Islands suffer from severe manpower shortages in all fields. Health is no exception. Water shortages occur seasonally because of the limited catchment areas. Rainwater is collected in rooftop tanks, but there is no inspection or treatment of the supply. The cost of developing the water

considered a satisfactory long-term solution to the problem. Water revenues will have to be increased if an adequate system is to be developed and maintained.

The Central Water Authority was established in 1969. A policy-making Board of Commissioners is appointed every two years and includes representatives of the business sector, the Town Board of Kingstown, a representative of the rural areas and advisors from various government agencies with some technical expertise (the Senior Medical Officer, Chief Agriculture Officer, etc.) A manager supervises the staff clerical and technical staff which carry on the daily operations of the water system.

A master plan for the development of St. Vincent's water resources has been drawn up with the assistance of PAHO and CIDA. The report was completed in 1971 and two construction phases have been executed. The plan will eventually link all the storage and treatment facilities which serve the Island. This will include consolidation of facilities from thirteen to six systems. There is in addition, legislation pending which will put the water and sewerage systems under one authority. (The one sewerage system in Kingstown is now administered by the Ministry of Public Works.)

The water systems of St. Vincent are beset by numerous difficulties in addition to the problem of revenues. Laboratory tests are theoretically done twice a week on ten of the thirteen systems. In fact, there is a serious shortage of vehicles available for this task. Preventive maintenance is unknown and repairs are delayed by the need to import all spare parts. The donation of obsolete equipment which cannot be repaired is of dubious value in the long run.

E. Environmental Sanitation

Water Supply

The island of St. Vincent has a sufficient quantity of natural water resources to meet the needs of the population when the resources are fully developed.

The existing water supply system is serving an estimated 70-75% of the population. There are three main areas of service - The Leeward and Windward sides of the Island and the Central Area, which serves Kingstown, the capital. The current storage tanks, (13 in all) can store an average of 12,000 gallons of water each.

Approximately 30% of the population is served by 6,000 house connections. In addition, there are 134 metered commercial connections. Commercial consumers are charged EC90¢ per 1,000 gallons for the first 10,000 gallons per month and EC\$1.10 for anything in excess of that. Households are charged according to the annual rental value of the property, however, assessments are outdated and are extremely low. As a result, private connections pay an average of only EC\$15.00 per year for water. A survey is being conducted now to determine the total number of users and to establish the level of charges for water according to the size of the house.

In 1975/76, revenues from the water supply system totaled EC\$180,733. Operating costs were EC\$460,000 and capital expenditures were SEC480,433. CIPA and PAHO have provided funds and technical assistance. The Vincentian government has been subsidizing the Central Water Authority to cover the losses of the system, but in view of the budgetary constraints on the government, this cannot be

Table I

Annual Report of District Nurses (1974)

Maternal Care

Clinics held	1,138
New cases	2,767
Albumine tests done	10,725
Tetanus toxoid	1,501
Number referred to Dr.	440
Total clinic attendance	11,520
Total deliveries	680

Child Care

Clinics held	978
Total attendance	9,850
Malnutrition 0-1	1st ^o 288
	2nd ^o 93
	3rd ^o 53
Malnutrition 1-5	1st ^o 73
	2nd ^o 24
	3rd ^o 25

Other

Casualties	12,182
Dressings	60,514
Yaws cases treated	163
S. Penicillin given	18,649
Insulin given	440
Home visits	4,206

Family Planning is a new (2 years) program that is provided in twelve clinics. However, by June of 1977 there were 2,381 acceptors against a target of 1,300. This represents approximately 20% of the women of fertile age.

Costs 1,798 in 1976 breakdown.

Medical 264

Other 175

Programs supported by UNFPA and IPPF.

Health education is virtually non-existent. Public Health Inspectors are supposed to educate the public with regard to water use, latrines, food storage etc., but actual number of tasks including health education are made greater than time and manpower can cover. There are sporadic radio spots and newspaper items on front page.

Social security is provided under a "National Provident Fund" established in 1970 to provide old age payments. It has not yet started to pay benefits. Both employees and employers contribute a fixed percentage to the Fund.

Health centers are staffed by district nurses. These nurses have an R.N. plus one year of midwifery. Services provided are antenatal, child care, immunizations, casualty care and home visits including domiciliary midwifery. There are six medical districts, each with a district medical officer who visits each center once a week to conduct a general clinic. He is accompanied by a dispenser who provides drugs. Table I shows utilization of nursing services for 1974. Current total data were not available, although monthly reports are submitted by each clinic. These totals are difficult to evaluate in light of the fact that target population data are not available, as no importance is attached to them. Referral system is from nurse to doctor to hospital. Regional hospitals refer complicated cases to the general hospital. People also go directly to the hospitals without passing through the centers.

Services are largely free of cost, with only small amounts asked for drugs and low rates charged per bed/day at the hospitals.

There is no system of program costs. Major program practice is to request specific amounts at varying times from the Ministry of Finance. All programs run at a deficit. British assistance funds are often used to reconcile the accounts at the end of the year.

Immunization programs are largely a function of MCH, with the focus on tetanus toxoid, DPT, and polio. Periodic campaigns are carried out.

MCH services form the main services at both centers and hospitals. All types of providers are involved.

C. National Administration and Planning Capabilities

The Minister of Health and Community Development has responsibility for the delivery of health services. The Permanent Secretary is responsible for budget and personnel decisions. Appointees to both positions have an average length of time in office of six months to one year. Actual administrative duties fall under three offices, Senior Medical Officer, Hospital Administrator (British), and Principal Nursing Officer. The auxiliary services, supply, maintenance, laboratory are under the Hospital Administrator. There is no formal planning unit or mechanism either within the Ministry of Health or the National Government as a whole. All programming is done on an ad hoc basis. Some effort has been made to make future needs projections but it is largely ineffective without a budgetary planning process.

There are data gathered on services given, however, such data are not evaluated in terms of program problems and changes that might be made.

There is no stated formal health policy. Objectives are also unstated but appear to be to continue to provide services as they have been provided in the past. The only new service is that of family planning, which is a government sponsored program which enjoys high priority. It is unclear what relationship there is between other sector priorities (if any) and health. There is no National Development Plan.

D. Health Services

Health services are comprehensive and are provided from 33 health centers, three regional hospitals and one general hospital in the capital, Kingstown. Location of facilities has been done largely on a political basis. Therefore, the population served varies from center to center between 5,000-9,000.

with the moderately malnourished group in St. Vincent being somewhat lower (6.3 percent). However, the figure of 22.4 percent (Table II) of children being "moderately malnourished" (first degree) is markedly lower than the level of first degree (29 percent) malnutrition indicated for Grenada.

There are even larger discrepancies when the results are analyzed by age groups. The percentage of well nourished children is 77 percent in the first year of life (Table III); it decreases in older age groups, being the lowest (43.5 percent) in the 12-23 month age group. This probably coincides with weaning age.

Data was not available on food consumption patterns, Vitamin A deficiency, Anemia or other nutritional deficiencies. Although it was learned that a breastfeeding program exists, indications are that it is limited to dissemination of educational material. There were no statistics available on the magnitude of coverage.

There are 14 community health aides trained in nutrition who work out of two health centers, providing nutrition information to the community. Weight charts are used at these and other clinics for children one month to two years. Use of the charts started in 1975.

B. Data on Malnutrition

In an attempt to assess the nutritional status of the under five years of age group, a nutrition study was conducted by Belle Allan, Nutrition Officer and Cynthia Witter - PAHO/WHO Nutritionist - both of whom worked within the Community Development and Social Welfare Services Division of the MCH. Information was obtained from the examination of record cards and growth charts, from 25 of 33 child welfare clinics in St. Vincent. The Gomez classification of malnutrition is the standard used in determining the nutritional status of the group under consideration.

The basic approach involved an analysis of data over a five year period - 1972-1976. For 1972-74, use is made of information obtained from a sub-sample of 17 clinics, these results are then compared to results obtained from samples of 25 clinics in 1975 and 1976. It should be noted that the group under consideration is not representative, in that it covers only those children who attended the clinics (22 percent). Nonetheless, it does provide partial insight into the magnitude of malnutrition in some areas for a selected sub-group of the St. Vincent population.

Discussion

For actual levels of malnutrition consult Tables I-III of the study. In 1976, 30.3 percent of all the children in the sample are malnourished according to the Gomez classification (their weight for age falls below 90 percent of that considered as the standard). 1.6 percent of the children are severely malnourished, and 6.3 percent moderately malnourished. The latter two figures are within the range of what was found in Grenada (1.6 percent and 9 percent)

ere is no central point for the collection of health statistics within the Ministry of Health. All hospital-related statistics including morbidity and mortality data are collected by the hospital. Diseases treated in the outpatient clinics are reported by the clinics to the Chief Public Health Nurse in the Ministry of Health. The only statistics which are collected are the notifications of reportable communicable diseases which are sent to CAREC. Physicians in private practice do not always report to the health system.

The only diseases which are reported in the clinic activity records are yaws, unspecified infant diarrheas, and high blood pressure. Health personnel appear to have varied opinions as to the specific nature of health problems, which suggests the somewhat limited perspective of each individual.

The statistics on the causes of death are probably the most accurate indicator of morbidity as well as mortality. (See Table 1).

Table 1

1975 Leading Causes of Death

Enteritis	104	1
Hypertensive	96	2
Avitaminoses and Other Nutrition	72	3
Malignant Neoplasms	68	7
Pneumonia	61	6
Heart Disease	54	4
Diabetes Mellitus	43	9
Perinatal	43	5
Cerebrovascular Dis.	36	8
Other Cir.	17	-
All Accidents (non vehicular)	15	-

B. Health Status Indicators

The general health status of the Vicentian population has improved markedly during the past fifteen years, however, it remains at a lower level than in the neighboring islands. (See below) The rapidly decreasing death rate and constant high-birth rate are responsible for the rapid population growth. The infant mortality rate has been cut in half and life expectancy has increased to 59 years. Despite these improvements, 33% of the deaths are infants under one year

	1960	1975
Birth Rate	49.9/1000	33.8/1000
Death Rate	15.2/1000	3.3/1000
Infant Mortality	131.5/1000	64.4/1000
Natural Increase	3.47	2.55

of age and an additional 12% are children 1-4 years of age. The leading causes of death for these age groups are Enteritis and Avitaminosis.

Causes of death for all age groups reflect the poor sanitary conditions and inadequate diet of the Island (See below). Among adults, the chronic degenerative diseases are increasingly important causes of morbidity and mortality. Hypertension, Heart Diseases, Cancer, and Diabetes Mellitus are among the leading causes of death for the adult population (in addition to enteritis).

The high rate of gastrointestinal infections is not attributable to the presence of typhoid or cholera but rather to other enteric diseases including amoebic and bacillary dysentery.

been severely limited to the point where it has had a negligible effect on the net increase in the population. Immigration authorities report emigration averaged only about 350 per year between 1970-73.

The total population of St. Vincent increased 7,300 between 1960 and 1970, from 79,900 to about 37,700. Ninety percent of this increase was in the 5-14 age group, which was reported to have increased about 7,100, from 23,100 in 1960 to 30,200 in 1970. Other age groups for which increases in population were reported were the 15-19 year age group, with 9,200 people reported in this grouping in 1970, an increase of 1,900 in the ten year period. In the 55 years and over grouping, there were 4,300 people, an increase of about 900 in the decade.

According to 1970 population estimates, about 40 percent of the population of St. Vincent lived in the southwest corner of the mainland. This area is defined as the Kingstown, Rest of Division, and Calliaqua divisions. These areas stretch roughly from Rilland Hill to Mt. St. Andrew to Yambou Head. This area represents an area of about 20 square miles, approximately 16 percent of the mainland land mass.

St. Vincent

Demographic Summary	
Total Population (1975)	99,000 (est.)
Crude Birth Rate (1970-75)	39.0/1000 population
Crude Death Rate " " "	8.8/1000 population
Infant Mortality	69.9/1000 live births
Natural Increase Rate	3.02
Rate of Growth	2.6% per year
Density	660 per square mile
Migration (1970-73)	350 per annum
Ethnic Groups (primarily of African descent)	
Marital Status	less than 50%

Age

Less than 5 (1970)	16.7%
Less than 20 "	61.9%
20-44 "	22.1%
Other (See Table III.1)	

The natural increase (births - deaths) from 1970 to 1973 averaged about 2,600 per year, this was a six percent decrease from the 2,700 average annual natural increase in the 1960's.

Emigration, in the 1960's greatly limited the net increase in the population. During most of the decade, over 1,200 people per year were reported to have left St. Vincent. Since 1970, however, emigration has

Island: St. Vincent

J. Socio-anthropological Aspects

Because of the small size of St. Vincent, the government functions on a very personal level. The personal nature of operations extends from the top levels through the entire system and includes the selection of candidates for nursing education, overseas fellowships, promotions, etc. This is not unique to St. Vincent, some of the other Islands operate in the same way.

K. Other (Including extrasectoral impacts on health)

IV. Evaluation of Actor's Perceptions vs. Situational Analysis

A. Does health policy, goals, and priorities match known health needs?

No, there is no awareness of health needs.

Priorities depend wholly on political considerations.

B. Is there enough information available to justify programming?

Information for some areas is adequate.

V. Recommendations for A.I.D.

Island: St. Vincent

E. Environmental Sanitation

Some Data available, very little actual, most estimates.

F. Manpower

Data very poor - some deductions made from budget estimates, other reports from memory of actual positions filled or vacant.

G. Health Facilities and Equipment

Data adequate on facilities and condition, data on equipment type, location and condition.

H. Pharmaceutical System

General information on structure of system and internal mechanism adequate.

I. Financing

Data is adequate on estimates of health expenditures, however, actual expenditure information is not available.

Island: St. Vincent

III. Data Availability (Quantity and Quality)

A. Demographic

Moderately good. Some information available on all categories.

Reliability somewhat doubtful - see report attached.

B. Health Status Indicators

Some data available - reliability questioned as is collected in ad hoc manner.

C. Administration and Planning

Data is scarce but clear that administration is weak and planning nonexistent.

D. Health Services

Data adequate on hospital services, very weak on other services. Data on demand nonexistent.

Island: St. Vincent

F. Areas where AID Assistance can be most useful

(Note British involvement)

Management assistance

Redesign of supply system

II. Non-Governmental Activities

A. Other Donors (For each donor discuss the nature, magnitude, timing, and duration of their involvement)

British grant in aid - hospital repair money?

Government of Venezuela - \$300,000 medical equipment.

UNFPA - family planning clinic, supplies, budget support money?

IPPF - \$50,000 for family planning effort.

B. P.V.O.s (For each, discuss the nature, magnitude, timing, and duration of their involvement)

Canadian Save the Children - foodstuffs money?

C. Private Indigenous Sector (Discuss nature, magnitude, and impact of their role in total health sector activities)

Very slight impact in total sector.

Only 10 bed private hospital. Urban doctors appear to make an adequate amount from private practice, although rural doctors do not.

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Island: St. Vincent

COUNTRY SUMMARY

I. Perceptions of Key Actors

A. Policy Goals

Provide comprehensive care to all people .

Reduce population growth rate.

B. Problem Areas (Their evaluation of Health situation)

Lack of funds to provide basic services to renovate health centers, to build a new hospital (Minister).

C. Nature, Scope, Intensity of Current System

System nationwide and comprehensive based on district clinics (33)

Rural Hospitals (3) and General Hospital (1).

D. Priorities

Additional funding

E. Constraints to Reaching Goals and Priorities

Management extremely weak and constantly affected by changing political picture. There is considerable dependence on British hospital administrator who performs functions (statistics gathering, plan development) which should be the responsibility of the P.S. and M.O.H.

Island: St. Lucia

How Collected and Utilized

Collected by household surveys.

Evaluation/Comments (Standardization of Data)

Good basis for programming.

Island: St. Lucia

DATA AVAILABILITY

Title of Document/Information

The National Food and Nutrition Survey of St. Lucia

Source

Caribbean Food and Nutrition Institute

Date

1976

Contents (See Outline)

- 1) Sample size
- 2) Residential environments
- 3) Socio-cultural environments
- 4) Nutritional status
- 5) Young child feeding
- 6) Food supply and expenditure patterns

Island: St. Lucia

How Collected and Utilized

Used as basis for constructing sewage system either through external or local finance.

Evaluation/Comments (Standardization of Data)

Island: St. Lucia

DATA AVAILABILITY

Title of Document/Information

Sewerage and Drainage of Castries.

Source

Howard Humphrey and Sons (consultants, under British Overseas Development Corp)

Date

February, 1971

Contents (See Outline)

Survey and Summary recommendations for storm and waste drainage of capital city.

Island: St. Lucia

How Collected and Utilized

Basis for requests for external assistance.

Evaluation/Comments (Standardization of Data)

Island: St. Lucia

DATA AVAILABILITY

Title of Document/Information

Solid Waste Disposal for St. Lucia.

Source

Robert Anderson PAHO consultant

Date

May, 1973

Contents (See Outline)

Review of present situation and plan with specific recommendations for future.

Island: St. Lucia

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How Collected and Utilized

Basis for economic planning and allotment of capital budget.

Evaluation/Comments (Standardization of Data)

Well done summary and listing of priorities per sector.

Island: St. Lucia

DATA AVAILABILITY

Title of Document/Information

St. Lucia National Plan, Development Strategy

Source

Government of St. Lucia (UNDP planner)

Date

1976

Contents (See Outline)

- 1) Development goals
- 2) Demographic trends
- 3) Observations on economic performance
- 4) Development of
Agriculture
Industry and tourism
Housing
Education
Health
Infrastructure
- 5) Maps of Areas

Island: St. Lucia

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How Collected and Utilized

Ministry of Health - uses to analyze activities of health sector.

Evaluation/Comments (Standardization of Data)

Excellent report, well organized, with a wide variety of information on the activities of the Public Health Ministry.

Island: St. Lucia

DATA AVAILABILITY

Title of Document/Information

Annual Report of the Health Division

Source

Ministry of Education and Health

Date

1975

Contents (See Outline)

- 1) Principal goals in health sector.
- 2) Population and vital statistics.
- 3) Mortality and Morbidity
- 4) Hospital Statistics
- 5) Health Infrastructure
- 6) Revenued Expenditures
- 7) Staff list.

Island: St. Lucia

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How Collected and Utilized

Used for Analysis of health financing.

Evaluation/Comments (Standardization of Data)

Island: St. Lucia

DATA AVAILABILITY

Title of Document/Information

1977/78 Estimate of St. Lucia

Source

Minister of Health

Date

Passed in the House of Assembly April, 1977.

Contents (See Outline)

Abstracts of Estimated Revenues and Expenditures for 1977/78.

Recurrent Estimates (Revenue and Expenditure)

Capital Estimates

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OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Miss. M. Niles	Nurs. Supt.	10/13	
Dr. King	Surgeon Cons. Vice Hospital President Medical Assitan	10/14	
Nurse	LaCroix Maingot Health Center	"	
Nurse George Vanard	Health Center	"	
Gail Messick	Dental Hygienist	10/13	Castries Health Center (PCV)

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Fitz Louisy	P.S. Health	10/12	
Mr. J.R.A. Bousquet	Minister of Health	10/12	
Mr. Austin Caudjo	Castries Engineer	"	
Mr. Deupulssy		"	
Dr. Popovi	Act. C.M.O.	10/13	
Mr. Hildreth Sanchez	Act. Secretary Water Auth.	"	
Mrs. M. Louisy	Health Education Nutrition Unit	"	
Mr. C. Lubin	Hospital Admin.	"	Victoria Hospital
Mrs. B. Lambert	Matron.	"	" " " "
Mr. D. Lee	Chief Laboratory Technician	"	" " " "

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OFFICIAL CONTACTS

Name	Position	Date of Contact 10/12	Comments
Mr. J.R.A. Bousquet	Minister of Health		
Mr. Fitz Louisy	Permanent Secretary		
Mr. R. Rene	Sanitary Engineer and Chief Public Health Inspector		
Mr. E. Frederick	P.H. Inspector		
Mr. I. Deupuissy	Town clerk of Castries		
Mr. A. Tacery	Town engineer, Castries		
Mr. Gajacihan	Chief, Statistics section, MOH		
Miss R. Eugene	Chief Pharmacist, Central supply, MOH		
Mr. Herbert	Assistant to Chief Pharmacist		

H. Pharmaceutical System

There is a national formulary which was revised in 1977. This forms the basis for all drugs and supplies in the public sector. There is no control over the private sector imports. There are ten private pharmacies on the island, nine of which are in Castries. Pharmacists provide advice and prescribe drugs. They are not allowed to give injections.

The public sector supplies are centrally controlled by the Ministry of Health. Yearly bulk orders are made based on prior year usage and limited to items in the national formulary. Other orders are made throughout the year as the central inventory requires. Drugs, supplies and equipment are ordered from a variety of companies depending on price and promised delivery date. Most items take three months to arrive.

Each health facility sends monthly requisitions to the central supply. Supplies are delivered to centers on a purely ad hoc basis as the supply section has no transportation. Supplies may be sent when a vehicle can be borrowed or when district nurses or supervisor nurses pick them up.

The average annual expenditure for drugs and supplies is EC\$800,000. The Chief Supply Officer states it is sufficient to meet the demand. However, requisitions from health centers were not filled completely and two physicians complained of drug shortages. These problems may be the result of transport and ordering delay.

In some instances physicians report that there are chronic shortages of certain drugs because the unfilled demand which occurs when the drug is out of stock is not taken into account when the next year's orders are sent.

Health Financing

In 1976, health expenditures in the public sector in St. Lucia amounted to \$5,018,046EC in recurrent costs and \$582,000EC in Capital expenditures. This amounted to approximately \$44.00EC per capita in recurrent expenditures. The budget level for 1977 has been established at \$6,542,949EC. About 48% is allocated to personnel costs, the rest to supplies and equipment. Two thirds of personnel costs are for the operation of the hospitals, and most of the supplies and equipment are also charged to the hospital facilities. About 10% of the total budget is spent on the environmental sanitation program.

A summary of revenues from the Health Services and Expenditures on Health through other Ministries as of 1975 can be seen in Tables 2 and 3.

Island: St. Lucia

Hospital equipment is old and very basic. It is relatively well-maintained and depends on regional representatives of manufacturers for major repairs and small local units for regular maintenance.

Health centers appear to be structurally sound and adequate, equipped with simple equipment which is aging but adequate and well-cared for. Sterilizers are lacking in most instances.

Victoria Hospital buildings are old and inadequate. They are fairly well-maintained and several minor adaptations and expansions have been done or are planned.

Island: St. Lucia

TABLE I

Number of Hospital Beds by Category, 1975

Hospital	Total	Pediatrics	Maternity	Surgery	General Medical	Ophthal- mology	T.B.	Private	Mental
Victoria	210	47	25	25	72	12	18	11	-
St. Jude	109	35	13	31	30	-	-	-	-
Golden Hope	162	-	-	-	0	-	-	12	150
Dennery	20	5	4	-	11	-	-	-	-
Soufriere	32	6	5	-	20	-	-	1	-
Research* (Schisto)	12	-	-	-	12	-	-	-	-
Total	545	93	47	56	145	12	18	24	150

*Rockerfeller Institute treats only advanced cases of schistosomiasis.

Island: St. Lucia

as well as public sector. The majority of tests are in nematology followed by urinalysis and serology. No cytology is done because there is no pathologist. Barbados is used for this service.

Admissions (1975)	-	6,312
Deaths	-	267
Discharges (1975)	-	8,213
Others	-	7,946

Island: St. Lucia

nurses and 19 nursing assistants and attendants. It also provides outpatient care and periodic clinics in outlying areas.

St. Jude Hospital is actually run by an order of Catholic nurses. However, the majority of the staff salaries are paid by the government. The hospital provides medical, surgical, maternal and pediatric care. Total admissions for 1975 were 3,521 with an average of 75% occupancy. The hospital also has x-ray and laboratory facilities. In 1975, 2,157 x-rays were taken and 18,385 laboratory tests were done.

The Victoria General Hospital also provides a full range of services and including a tuberculosis ward which was recently reduced from 50 to 15 beds due to the decline of tuberculosis cases.

This hospital is staffed by one nursing matron with an assistant, five departmental sisters, 23 ward sisters, 62 staff nurses and 27 nursing assistants. In addition, the School of Nursing is attached and student nurses spend 50% of their time in the hospital. This provides a nurse-per-bed ratio of 1 R.N. to 8 beds and 1 student or nursing assistant per 3.7 beds.

Medical staff consists of two consultant surgeons, and a consultant obstetrician, one general consultant, one anesthetist, one registrar and one house officer. The consultants, like district medical officers, are allowed private practice about 50-60% of their time.

Occupancy rates for the Victoria Hospital were not available per service, however, total occupancy in 1975 was above 80%. Outpatients seen in 1975 totalled 19,806. The hospital laboratory serves as the major laboratory for the nation in private

Island: St. Lucia

<u>Technical (cont'd.)</u>	<u>Established</u>	<u>Filled</u>
Lab Attendants	2	(2)
Senior Dispenser	1	(1)
Dispenser	1	(1)
Student Dispenser	5	(5)
Radiographer	1	(1)
Assistant Radiographer	1	(1)
Apprentice Radiographer	1	(1)
Physiotherapist	2	(2)
Apprentice Physiotherapist	2	(2)

G. Health Facilities and Equipment

In addition to health centers, services are provided at several hospitals and specialty areas.

These are Victoria General Hospital in Castries (210 beds), St. Jude General Hospital in Vieux Fort (109 beds), Golden Hope Mental Center (152 beds), Dennery Casualty Hospital (32 beds), and the Rockefeller Schistosomiasis Research Hospital (12 beds).

The Research Center cares for only advanced cases of schistosomiasis, Jennery and Soufriere provide general medical, maternity and pediatric services. Each is staffed with three nurses and is served by the district medical officer of that district.

The Golden Hope Mental Center provides custodial and rehabilitative care. It is staffed by a consultant psychiatrist, an occupational therapist, seven senior

Island: St. Lucia

<u>Health Centers /aux-Font</u>	<u>Established</u>	<u>Filled</u>
Senior Dispenser	1	1
<u>Victoria Hospital</u>		
Administrator	1	1
Executive Officer	1	1
Store Keeper	1	1
<u>Dennery Hospital</u>		
Steward/Dispenser	1	1
Nursing Assistant	2	0
Nursing Attendants	1	1
<u>Nursing</u>		
Matron	1	(1)
Assistant Matron	1	(1)
Departmental Sisters	5	(2)
Night Superintendent	2	(2)
Ward Sisters	21	(19)
Staff Nurses	62	(48)
Nursing Assistants	27	(12)
Student Nursing	12	(7)
<u>Technical</u>		
Chief Lab Technician	1	1
Senior Lab Technician	1	1
Lab Technician	5	(5)
Lab Apprentices	5	(5)

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<u>Medical Department</u>	<u>Established</u>	<u>Filled</u>
Radiologist	1	-
Surgeons	2	(2)
Obstetrician/Gynecologist	1	(1)
Physician	1	(1)
Anesthetist	2	(1)
Registers	4	(1)
Pathologist	1	-
House Officer	4	(1)
<u>Medical Services</u>		
Chief Medical Officer	1	1
Medical Officer of Health	1	1
Ophthalmologist	1	1
Pediatrician	1	1
Medical Officer	12	10
<u>Environmental Health Branch</u>		
Sanitary Engineer/Chief PHI	1	1
Public Health Technician	1	1
Sr. Public Health Inspectors	4	3
Public Health Inspector	16	14
<u>Castries Dispensaries</u>		
Medical Supplies Officer	1	1
Senior Dispensers	1	7
Dispenser	3	3

inspectors, community health aides, nursing assistant, family planning participants about health, nutrition and related matters.

<u>District and Public Health Nursing Services</u>	<u>Established</u>	<u>Filled</u>
Nursing superintendent	1	(1)
Public Health Nursing Supervisors	9	(9)
District Nurses	35	(34)
Ward Sisters	4	(3)
Staff Nurses	4	4
Nursing Attendant	1	1
Attendants	3	(3)
Nursing Assistants	5	(1)
Dental Nursing Assistants	2	(0)
<u>Mental Hospital</u>		
Psychiatrist	1	(1)
Occupational Therapist	1	(1)
Asst. Occupational Therapist	1	(1)
Steward/Dispenser	1	(1)
Charge Nurse	1	(1)
Ward Sister	1	(1)
Staff Nurse	6	(5)
Sr. Nursing Assistants	2	(2)
Nursing Assistants	13	(8)
Nursing Attendants	13	(11)

Island: St. Lucia

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(c) training will be conducted locally by Public Health Nursing team and Medical Officers.

Number of Persons to be Trained:

Short-term	1977-78	=	22 community Health Aides
	1978-80	=	75 community Health Aides

Cost of training program = \$9,000.00 EC

- (2) Nurse Administrators. Primarily for senior ward and district nurses to enable them to become departmental heads and assume more responsibility in delivering community health services. Proposed to train four people between 1978-80. Conducted by UWI (Jamaica) at a cost of \$8000.00 (Jamaican \$).
- (3) Maternal and child health and family planning instruction. 35 district nurses/subsistence and training to be conducted by local health educators at \$2000.00 EC.
- (4) Nurse practitioner. Jamaica/Trinidad. Provide training for four public health centers enabling the communities to benefit from low cost medical care. Qualification: R.N., C.M., M.V.*.
- (5) Dental Auxiliary - Barbados/Trinidad. Private training for 8-12 students with G.C.E.
- (6) Nutritionist. To provide local training enabling at a minimum bachelor's level training for two locals in conjunction with trainers from other regions. Sponsorship under the appropriate regional body.
- (7) Health Educator Training. Provide local health educator with training community health services to enable a single individual to train public

* "M.V." appears in St. Lucian requirements. The meaning of this title cannot be determined. It may be "M.B.," Bachelor of Medicine (British M.D.).

F. Manpower

The number of health personnel, with rates per 10,000 population, at present are 33 doctors (2.5); 2 dentists (0.1); one hospital administrator (0.1); 2 sanitary engineers (0.2); 4 health educators (0.3); 1 nutrition educator (0.1); 9 public health nurses (0.7); 135 trained nurses (including trained midwives) 38 nursing assistants (3.0); 1 radiographer (0.1); 14 laboratory technicians (1.1); 9 dispensers (0.7); 5 physiotherapists (3 trained, 2 in training) (0.4); 19 public health inspectors (1.4); and 14 nursing attendants (1.1).

General staffing patterns show that demand for medical services by the rural population is not adequately filled. More than two-thirds of the medical and related auxiliary personnel are practicing in an urban setting. Slightly more than one-quarter of the available nurses are working in the rural areas. The bulk of the services provided are still within the institutional mode of delivery, however, it will be modified as more nurse practitioners, nursing assistants and other community health services trained personnel are channeled through the rural health centers.

Training Priorities: (1) Community Health aides. Selection criteria based on the following:

- (a) primary school leaving certificate from community, good personal relationship, good health and two character references,
- (b) must be female in the 17-40 age range and have an interest in community health services and assisting community residents in obtaining access to services.

the island. They inspect hotels and restaurants, market places and are involved in school health education programs. Mosquito and rodent control are also among their responsibilities. There are currently 16 Public Health Inspectors employed by the MCH. There are five vacancies.

Environmental Sanitation is one of the top priorities of the St. Lucian government. The Ministry of Health feels that the development of adequate water and sewerage systems will make a major contribution to the improved health status of the population.

The Castries sewerage system, which was recently extended with the aid of an \$840,000 EC loan from the CDB, now serves between 15 and 25% of the town's population. The rest are dependent upon septic tanks and latrines. The sewage outfall extends 60 feet beyond the mouth of the Castries harbor. No treatment is used. The housing inspector must approve all new construction, and permission to install a septic tank or pit latrine is reviewed by the Public Health Inspector's Office. Septic tanks are not allowed if the water table or population density of the area indicate unfavorable conditions.

Charges for the sewerage system are based on the rental value of the property. Assessments are updated every three years.

Approximately 150 people are employed in the collection of solid waste. Six trucks serve the Castries area. Collection (house to house) is financed by a house tax, part of which is used for garbage collection. Principal streets are cleaned, but side streets and alleys in many areas are used by the public as garbage dumps.

Trucks are used for waste collection in other towns. Services are usually 2-3 times a week. Sanitary land fill techniques are not used.

Vector Control

The Aedes Aegypti eradication campaign employs 35 agents and one Senior Inspector as supervisor. Perifocal spraying is used.

Other

In addition to overseeing some of the activities mentioned previously, the Public Health Inspector must do post mortem inspections of livestock slaughtered in the three main abattoirs and in the numerous small market stalls throughout

individual connections, commercial and household, are metered and charged \$2.20EC per 1,000 gallons. Public standpipes are also metered and the Water Authority is reimbursed from the St. Lucia Treasury. The currently operating water systems were designed to provide 40 gallons of water per capita per day to private connections and 10-20 gallons per capita per day to standpipes. Despite the threat of disconnection which is sometimes raised by the water company, accounts receivable totaled about \$486,000EC in mid-1977. This amounts to almost 50% of the outstanding Caribbean Development Bank loan for water supply.

As the cost of imported spare parts increases, so does the cost of repairs. As maintenance and repair costs rise, the amount of work performed must drop because of budget constraints. The danger is that this downward spiral will continue until much of the original investment in equipment is lost. In order to finance the desired improvements in the water supply systems, and maintain these investments, it will be necessary to improve the collection of bad debts and develop a schedule of gradually increasing water rates.

Waste Disposal

The Ministry of Health has the primary responsibility for sewerage systems and solid waste disposal throughout the island. However, the Town Council of Castries is responsible for that area, and other towns and villages (under the Ministry of Social Affairs) are in theory responsible for their areas. They depend upon the Ministry of Health for the technical assistance which is provided by the Public Health Inspectors.

E. Environmental Sanitation

Water Supplies

St. Lucia is blessed with an abundant supply of water, however, the Island suffers from chronic water shortages because these natural resources have not been completely developed. It is estimated that 60% of the population is connected to one of the Islands many water systems (30% have house connections).

Most of the water is collected high up in the catchment areas and theoretically does not need chlorination. In fact, the catchment areas are for the most part privately owned and unprotected from incursions by man or animals.

There are three treatment plants in the Castries area and one in Fort Vieux which use Coagulation, sedimentation, filtration, and chlorination. Major villages use sand filtration and a few also chlorinate the water. In Castries there is a two million gallon storage tank and in Fort Vieux a .5 million gallon tank. Most of the water production is from surface water which uses rapid gravity transmission. Pumping is avoided as much as possible because of installation and maintenance costs.

A Water Authority, which is located in the Ministry of Communications, Works, and Labor, oversees the development and management of water resources. The Board of the Authority, the Water Commission (which includes the manager of the Water Authority, the Chief Medical Officer, one member each from the Castries City Council and the Chamber of Commerce, the Secretary of Finance, and the Director of Public Works), is responsible for setting water rates, subject to the approval of the St. Lucia Public Utilities Commission. All

Nutrition programs are based on the national survey done by the Caribbean Food and Nutrition Institute in 1974.

Services relating to food sanitation, water supply, and waste disposal are provided by the 16 Public Health Inspectors.

The Referral system is fairly informal, nurses to doctors to hospitals is the preferred path, although people can and do go directly to the general hospital or other facilities.

Other staff at health centers include nursing aides (at least one per center) who do general cleaning, register patients and do simple dressings. They are trained by the nurse at the respective centers. There are also 14 community health aides who provide nutrition information. This includes child weighing, instruction on food preparation and general counseling.

Immunizations are given at all health facilities. Major ones are D.P.T., polio, B.C.G. and tetanus toxoid. The refrigerator in the resident nurse's quarters serves also as cold storage for vaccines.

Maternal and child care is a major focus of health centers. Nurses also provide family planning information and contraceptives. 1975 data shows total number of acceptors at 9,754 or about 50% of fertile age women. Family planning is supported by the government even though there is nominal opposition from the Catholic Church to which the majority of the population belongs. Tubal ligations and abortions are also performed in the hospitals although no data is available as to the total number.

Health education focuses principally on nutrition education through the community aides described above. There are three health educators/nutritionists who supervise the aides and prepare visual materials for home, clinic talks and some radio and newspaper spots. There are no supplementary feeding programs currently although plans are being made to start an MCH feeding program through WFP foods.

D. Health Services

Health services are provided at health centers (27) casualty hospitals (2) and one general hospital. The county is divided into seven medical districts. The number of health centers in each district varies, depending on the population. While there is no formal location analysis done for planning clinics and there is no exact knowledge as to number of population served by each, the distribution tends to follow population concentrations.

Each health center is staffed by a district nurse who is a R.N. and midwife. She provides general casualty care, antenatal, midwifery, postnatal and child care. There are nine area nurse supervisors who are Public Health nurses. In each district there is a district medical officer who visits each health center at least once a week.

The national totals of clinic visits/utilization are available for 1975.

Attendance at physician clinics is 50-60 patients daily; attendance at nurse clinics is 10-20. Records kept at each clinic are thorough and include patient records, maternity records, doctor's activity book, nurse's activity book, and blood tests book. All activities are summarized monthly, records are kept up-to-date in the clinics visited.

Nurses also do home visits for deliveries (although only 20% deliver at home) post-natal care, child health and nutrition.

A dispenser accompanies the district medical officer and provides drugs at the doctor's clinic. The nurse also dispenses drugs throughout the week.

of population growth through family planning.

These objectives relate to all development objectives. In the allocation of total national budget resources health is one of the lower priorities, claiming only marginally more funds than that necessary for recurrent costs.

C. National Administration and Planning Capabilities

The Ministry of Education and Health has responsibility for health services and preventive care. Urban water and sewage are responsibilities of the Central Water Authority and Castries Town Council respectively. Water supplies and disposal of waste in rural areas is the responsibility of the Ministry of Education and Health.

The Chief Administrative Officer is the Permanent Secretary. The present P.S. is an experienced civil servant who has been at his present job for four years.

The Chief Medical Officer is the principal technical officer. His role is to provide technical guidance to all medical staff. There is also a medical council made of several physicians which provides guidance to the Minister.

Health Services are centrally organized and supported. Some attempts are being made to start health planning as part of national development planning. In the Development Strategy published in 1977, health priorities and plans are listed.

An individual has been identified to take a health planning course and establish a planning capability. The information system is fairly adequate to support expanded planning and can be easily improved.

Health sector objectives, as stated in the Development Strategy are: a) effective control of communicable diseases through immunization, b) effective maternal-child care, c) total care of such, e) effective control of sanitation, f) early establishment of a national health care scheme, and g) stabilization

and food expenditure levels.

Anthropometric examinations revealed that 9% of children under five years of age in the survey group (1,780) were underweight for their age (Gomez Grade II) and 2% (380 children) were severely malnourished (Gomez Grade III). Another 33% were Gomez Grade I. The peak prevalence of underweight and size occurred in the second year of life.

Children of school age were classified as follows:

Gomez Grade I	50.6%
Gomez Grade II	16.5%
Gomez Grade III	2.4%

Anemia existed in all age groups with higher levels in children 5-9 years of age and adult males. The high prevalence of hookworm infestation parallels that of anemia. Obesity was found in 28% of women over 15 years of age and 3% of men.

The nutrition survey led to the preparation and adoption of a national Nutrition Policy for St. Lucia.

Nutrition

The most recent information on nutritional status in St. Lucia was gathered during a CFNI survey in 1974. Food consumption patterns as well as nutritional status were studied. The following paragraphs summarize the findings of the survey.

About 50% of the households surveyed failed to meet recommended levels of calorie intake. Daily per capita availability of 2244 calories of energy and 52.3 grams of protein were estimated in 1970. In the 1974 survey, 64.9% of rural households and 80% of urban households were able to satisfy their protein needs. Less than 50% received sufficient amounts of calcium, however, and the majority of the population consumed insufficient quantities of iron, B vitamins, Vitamins A, and C. Children under five years of age consume less than 80% of needs but again, protein intake was satisfactory.

The cheapest sources of energy in the diet are cereals, the cheapest sources of protein are salt cod and salt beef. Two thirds of total energy supplies, including 100% of cereals and 80% of meats are imported. Expenditures on food ranged from 35% of income in high income groups to 61% in low income groups. Mean expenditure on food was ECS\$369.60 per year.

Infant and child feeding practices were unsatisfactory in a large number of homes which indicated a need for a better understanding of food use. These practices contrasted sharply with the prevailing attitudes that good food is important, for good maternal and child health. The good attendance at health and other health clinics suggests a willingness to adopt practices shown to be worthwhile. The survey showed that the most important factor in maintaining satisfactory nutritional levels is income

Island: St. Lucia

A major public health effort is being made to control venereal diseases (husbands and wives are treated together at health centers), however, the high rates of migration, constant influx of tourists and other foreigners, and the prevailing social patterns make the control of sexually transmitted diseases a formidable task.

Future efforts will have to be directed toward the control of the chronic degenerative diseases as they increase and other public health problems decline. It can be expected that some time within the next decade, public health programs will be directed to these problems.

Island: St. Lucia

Most of the reportable communicable diseases are declining steadily in St. Lucia. Sexually transmitted diseases remain an important health problem, however, and gastroenteric infections persist as well. Health officials have expressed concern about an outbreak of typhoid fever, particularly in the Vieux Fort district; 39 cases were reported during the first nine months of 1977. This was a considerable increase over 1975 (22 cases). The reported cases of communicable disease are summarized in Table 2.

Table 2
Reported Cases of Communicable Disease in 1975

Disease	1975
Chicken Pox	268
Diphtheria	2
Dysentery (bacillary)	11
Gastro-enteritis	1234
Gonorrhoea	559
Influenza	95
Measles	202
Mumps	215
Syphilis	276
Schistosomiasis	380
Tuberculosis - all forms	54
Typhoid	22
Whooping Cough	512
Yaws	2

Source: Ministry of Health Annual Report, 1975

St. Lucia is the only island in the Eastern Caribbean Region which is infected with schistosomiasis. A long-term program which includes chemotherapy and construction of water supply facilities away from the source of infection have reduced the prevalence rate of the disease from 20% to 3.0% by 1976. Efforts in the endemic area will be continued in the hope that the disease can be eradicated within a decade.

Life expectancy had increased from 60 years in 1960 to 64 years by 1970. The decline in the crude death rate from 8.2/1000 in 1970 to 7.5/1000 in 1975 suggests a further increase in life expectancy between 1970 and 1977. Infant mortality is also declining steadily - the 1970 rate was 42.7/1000 live births versus a 1975 rate of 35.6/1000. The neonatal death rate dropped as well, from 24.7/1000 live births in 1973 to 17.9/1000 in 1975. This decline may reflect the steady increase in deliveries attended by trained medical personnel (80% in 1975). The crude birth rate continues to be high, at 36.2/1000 in 1975; the rapid population growth can be expected to seriously strain the resources of the existing health system during the next 5-10 years.

The leading causes of death for all age groups is summarized in Table 1. The chronic degenerative diseases accounted for more than a third of all deaths in 1975, while gastroenteritis and upper respiratory infections represented just over 15% of all deaths.

Table 1
Leading Causes of Death in St. Lucia, 1975

Heart Disease - all forms	108
All Forms of Cancer	76
Cerebrovascular Disease	63
Enteritis	50
Hypertensive Disease	45
Perinatal Mortality (1-6 days- all causes)	45
Pneumonia	44
Other Diseases of the Upper Respiratory System	42
Avitaminosis and Anemia	28
Diabetes Mellitus	19

SOURCE: Ministry of Health Annual Report 1975.

Island: St. Lucia

Population density in St. Lucia is 465 per square mile; the large majority of the population is settled in the coastal areas of the islands. The island's urban-rural population distribution is unknown, but the capital city of Castries is experiencing a growth rate of about 3% per year, which exceeds the regional average for urban areas of 5% per year.

Women tend to bear children at an early age (24% of births in 1975 were by women 10-19 years of age), and serial monogamy which is not formalized is very common. There is no stigma attached to illegitimacy and social pressures begin at an early age for men to demonstrate their virility by fathering children and for women to demonstrate their femininity by bearing children. As long as these values are strong, the large number of pregnancies at an early age will continue.

The literacy rate of the island is reported to be about 70%, but only 3.3% of the population is educated beyond the primary school level. This means that without further education, the majority of the population is trainable only for unskilled or semi-skilled labor.

8.1 Health Status Indicators

Health Statistics in St. Lucia are gathered from several sources. Births and deaths are registered by the civil registry; hospital activities including illnesses, deaths by cause, age, and sex are reported monthly; clinics also report communicable diseases, births attended at home, nutritional status, and other information. The statistical office of the Ministry prepares an Annual Report which summarizes activities in the health sector. Reports of communicable diseases and numbers of health facilities and personnel also appear in the Annual Statistical Abstract. The Health Division Annual Report appears between 8 and 10 months after the end of the year.

Island: St. Lucia

III. Data Availability

A. Demographic

The population of St. Lucia was estimated to be 120,473 in 1977. The crude birth rate was about 36/1000 and the crude death rate 8/1000 in 1975. The birth rate has dropped steadily, from 39.8/1000 in 1973 to 36.3/1000 in 1975, however, the fertility rate has continued to be high at 188/1000 fertile age women. Health officials estimate the acceptance of birth control services by an estimated 50% of women fertile age in 1977. The high population growth rate of 2.89 will cause serious problems for St. Lucia as development of the island proceeds. The high proportion of population under age 15 (50%) indicates increased pressure on the social, educational, and economic resources of the island. (See 1975 Annual Report of the Health Division for Population by Age in 1975).

Outmigration during the 1960's at an average annual rate of almost 2 percent served to deplete the economically active population and lower the rate of natural increase. Migration during the rest of the decade is projected at 0.7 percent, which will be the lowest rate ever experienced by St. Lucia. This will be countered by a projected decrease in the Gross Reproduction Rate from 2.6 in 1970 to 2.0 by 1980. The number of women of fertile age (15-44) was 22,000 in 1975.

The economically active population is expected to increase from 28,700 in 1970 to 51,000 by 1990. It is estimated that at least 3500 new jobs will have to be created in the manufacturing sector and another 24-26,000 in the tourism industry. The agricultural labor force is not expected to increase much above its current level of 10-11,000.

Island: Montserrat

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Food inspection

Spoilage rather than bacteria.

of inspectors ok. if qualified

Refuse

Collection from 97% of homes

15 people

Aedes = Eradication maintenance

.5

Eyes - glycoma and vision

Tng. - improve care

High infant mortality

Permatute births

Teenage Pregnancies

V.D.

20% malnutrition

Health Education PCV

Nurses continuing education abroad. Exposure (CAREC course next year.)

Emigration

70/80 per 2 hrs.

15/20 per

Nurses practicies

Confidence of Populace ?

Professional Resistance

Sanitation

Hook worm

Extent of infestation

24% of houses w/o toilet

Unit costing not done (and not required)

Some assitance in financial

Hlth. statistics not down at desirable level.

Reporting to CAREC mil.

Island: Montserrat

Mr. Wooding	Surgeon S.M.J.
Fairer	Administrator
Mr. Lynch	PH Inspector
Daley	Matron

Fairly Healthy

Parasites: hook worm

Sanitation level improved

Immunization

Nutrition (children)

Priorities

Environmental Sanitation

Lack specialist staff

Eyes, orthopedics, gynecology

Population do not warrant

Constraints

Regularized TDY needs

C.C.T.A.P.

Recruiting Pediatrician

Semi-retired

Venezuela hand of friendship

Need to upgrade clinics

Equipment of clinics to serve as curative and prevention

Dispense 2 hours a week per clinic

District Public Health Inspector

Island: Montserrat

10/9

Terr1

PCY

Dental Hygenist

Dental Health Clinic

1 dentist (Government) Dr. Bufont Canadian Grad.

1 private - Scottish left a week ago

Target Population - school children free aged, maternal, etc.

3000 School children/ 19 schools

Colgate Palmolive - brushes

Canadian dentist month by month

Bufont - Public in morning; private in afternoon. efficat

Anterior decay

Milk, mostly condensed.

Long gravy, pear bush and guava.

3 per hygenfst

1 hith educator

Hosp. Dispenser	1	1
Apprentice Dispenser	1	1
Dental Hygenist	1	1
Dental Assistant	1	1
Public Health Clinics	74	75
Health Centers	3	3
Outposts	9	9
Public Health Inspector	5	6
Public Health Nurses	3	3
District Nurses	12	11
Public Health Dispenser	1	1
Infirmery		
Matron	1	1
Maids	4	6
Private Medical Staff	:	
Dentist	1	1
GP	2	2

Medical Facilities

Table 70

(Note: New Hospital opened subsequent to 1975)

Occupancy statistics for Glendon Hospital

Occupancy Rate	54.93 (74)	60.98 (75)
----------------	------------	------------

Medical Staff

<u>Glendon</u>	74	1
----------------	----	---

Nursing

Matron	1	1
Sister Tutor	1	1
Admin. Sister	1	1
Sisters	6	5
Staff Nurses	13	10
Student Nurses	14	15
Nursing Assist.	--	11

Physicians & Surgeons

CMO	1	1
Surgeon	1	1
District Med. Off.	2	2
Dentist	1	1

Other

Lab Tech.	1	1
Lab Apprentice	1	1
Radiographer	1	1
Hosp. Dispenser	1	1

.8 Death by Causes by Year 65 - 75

	73	74	75
Infective & Parasitic	3	3	4
Neoplasms	7	18	12
Endocrine, Nutritional & Metabolic	5	5	7
Diseases of blood	2	1	2
Mental	-	1	-
Nervous System	3	7	4
of			
Diseases of Circulatory System	41	55	49
Heart Disease	(15)	(27)	(27)
Cerebrovascular	(14)	(19)	(16)
Respiratory	16	16	19
Pneumonia	(11)	(14)	(13)
Genital-Urinary	3	--	5
Digestive System	5	5	4
Pregnancy Complications	-	-	1
Musculo-skeletal	1	1	--
Congenital Anomalies	2	--	1
Perinatal Moro & Mort.	6	3	4
Ill-defined	9	13	13
Accidents & Violence	<u>4</u>	<u>3</u>	<u>3</u>
Total	107	131	129

Table 59 Deaths by Sex, Season, Parish & Age 1960 - 1975.

Island: Montserrat

215

		Capit. Rev.	Cap. Ex.	+ -	Total + -
1974	ECS	2,466,433	2,542,590	- 76,157	-1,034,066
1975		3,396,083	4,213,123	-217,040	- 580,734

Rec. Expenditure Min ED/Health & Welfare	1974	ECS	2,473,315
	1975		2,334,645

Table 53 Capital Revenue by Donor

	UK	WI Scholar Scheme	CIDA	Other	Consolid. Fund	Jersey	Loans
ECS							
1974	2,197,440	157,398	--	47,028	85	45,581	19,000
1975	3,563,332	136,080	64,437	6,563	21,468	27,492	176,211

Capital Expend. Min ERM	1974	ECS	503,337
	1975		1,434,417

Table 56 Household by Type and Use of Toilet facilities 1970 data. (Note: due to improvements in water connections since 1970 this data probably not useful.)

Population Pyramid 1970

Life Tables 1966-1975 by age & sex

Mean Population and Vital Rates 1960-75

Mean Population	13,155
Birth Rate	1.619
Death Rate	.973
Rate of Natural increase	.646
Marriage Rate	.350
Infant Mortality	42.25
Still Birth Rate	14.09
Sex Rates at Birth	936.36
Illegitimacy Rate	78.87

1970 Population 15 years & over by sex & marital status

	Never Married	Married	Widowed	Div.	Sep.	Not Stated
M	1,667	1,266	116	15	19	6
F	2,089	1,381	307	20	15	2

Table 43 Water

Meters	73 (1625)	74 (2015)	75 (2374)
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Table 50 Total Government Revenue & Expenditure

	Local Rsc. Rev.	Total Rsc. Rev.	Total Rsc. Exp.	+ -
1974	5,007,297	6,346,132	7,304,041	-957,909
1975	5,693,051	7,483,701	7,947,395	-463,694

Island: Montserrat

DATA AVAILABILITY

Title of Document/Information

Government of Montserrat Fourth Statistical Digest 1976

Source

Peace Corp/Barbados

Date

1976 (Prepared by Jill Hanna, Statistics Office)

Contents (See Outline)

Population by year 1960, 1965-1975

1975 M 6,866 F 6,425 T 13,291

Population by Sex & Age Group Table 2. 1970

	M	F
Plymouth	570	697
St. Anthony	2,056	2,335
St. Peter	1,592	1,800
St. George	<u>1,156</u>	<u>1,252</u>
Total	5,374	6,084

Island: Montserrat

2/2

How Collected and Utilized

Budget formulation.

Aid solicitation . UK, Canada & CDB

Evaluation/Comments (Standardization of Data)

Succinct and useful

Modest, in keeping with size and prospects

Much of data is 1970 census, sometimes brought up to date in text.

Presumably reliable data.

Note: Montserrat under UK pressure to meet a greater part of recurrent costs.

Improv. District Clinics

Capital	20	20	20	--	--
Rec.	--	1	2	3	3

* Provides for following additional staff

Physician	1981
Sister	80
Staff nurse	81
Staff nurse	82
2 Com. Hlth. aides	80
Com. Hlth. aide	81
Com. Hlth. aide	82

Water

Water Supply Improvements

Cap.	120				
Well field Development	50	50			
New water Sources	--	--	200	500	500

Table /611

Students at UWI

Medicine 1(77), 1(78), 1(80), 0(81)

One pharmacist in training. Where?

Budget (Capital & New Recurrent)

Abattoir 200,000 (78)

Nutrition Education

Capital 40(78), 13(79), 14(80)

Recurrent 32 45 45

Distribution of Supplemental kies

Recurrent 5 5 5

School Lunch

Recurrent 40 60 80 100 120

Health

Conversion of old hospital (for geriatrics)

Capital 100

Rec. -- 4 4 4 4

Equipment

Capital 20 10 -- -- --

Rec. 1 2 2 2

Expansion of Health Services *

Rec. -- -- 14 38 56

Each areas has a public health nurse

Each clinic served by district nurse

Each clinic visited by MD once/wk.

Future emphasis of clinics to be

preventive

immunization: diphtheria, whooping cough, tetanus, poliomyelitis,
measles, tuberculosis and smallpox

Need to recruit health educator and community health aides

FP Clinic in Plymouth

Advice & contraceptives free

Birth rate dropped from 23/1000 in 1975 to 16/1000 in 1976.

Nutrition 14.9

Objectives:

- eliminate first and second degree malnutrition amongst children under 5.
- eliminate anaemia amongst pregnant women.
- increase nutritional status of the elderly.

Nutrition Education 14.11

Through school and community approaches

School feeding - since 1971

Children served:

1000 - lunch

1,500 - milk

projection - 2,500

Island: Montserrat

"The improvement of social services will receive a lower priority depending on available finance." 4.2

"To improve the health and nutritional standard of the population with particular emphasis on the pre-school and elderly groups." 4.3

Water 8.12

2,300 metered consumers

150 unmetered consumers

Supply 600,000 gpd; demand 470,000

Welfare 12.4

Included: "Travelling expenses for medical care not available on the island."

Day-Care Centers 12.6

Education - new curriculum to be developed during plan period: health-nutritional and family life education.

Montserrat Development Plan (1978-82 - Draft)

Chapter 14 Health & Nutrition

Hospital new 67 beds one/190 population

Medical, surgical, pediatric, obstetric and psychiatric wards.

Want one pediatrician.

Doctors - Four "Government:" two responsible for district work; 2

private practitioners)one MD/2,100 population

Dentist - One government, one private

Residential care for 30 geriatric patients

District medical services

12 clinics grouped in 3 health areas

Island: Montserrat

DATA AVAILABILITY

Title of Document/Information

Development Plan 1978-82 (Draft)

Source

RDO/C

Date

NA 1977

Contents (See Outline)

Brief history

Economic & Social Trends

Table 3.2 Recurrent Budget 71-76

deficit 30% - 40%.

Capital budget totally financed by external sources

Migration 3.6 Table 3.3 (1970)

Population Profile (1970)

Development Objectives

Creation of job opportunities, increased domestic production, greater
self-reliance (agriculture, industry & tourism)

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Wooding, Fairer, Lynch, and D.ley (Cont'd)			<p>and no communicable disease / statistics since 75. M.D.s send in no statement. Nurses send theirs to Matron. (No aggregation work)</p> <p>Lynch: Ongoing food and restaurant inspection program at rate of 2/yr. Don't inspect food on entry into island unless asked to. Check food for spoilage.</p> <p>There are 5 inspectors including chief inspector. Refuse collection from 87% of homes island wide. Staff of 15 including five sweepers for this job. Dumped in landfill 4 miles from Plymouth. There is no maintenance program.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Wooding, Falrer, Lynch, and Waley (Cont'd)			<p>seen at clinics by physicians in 2 hrs. range from 40-80.</p> <p>Matron: Need for upgrading nurses in clinics to nurse practitioners since M.D.s are seldom around and nurses are doing N.P.' duties already. Also to free M.D.s take care of more serious problems.</p> <p>Wooding: Strong disagreement with this. Felt people should be free to have type of care they want. (Self referral common). (Long argument ensues over this with no resolution).</p> <p>Lynch: Found a case of hookworm and wants to survey island Latrines coverage - 24% of houses without toilets representing 90% of the population.</p> <p>CMD: H2O in each home too costly. Need assistance in</p>

* Nurse Practitioner

ISLAND: Montserrat

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Wooding, Fairer, Lynch, and Galey (Cont'd)			<p>Inflation (SIC) etc. Need storage room for health inspectors equipment in clinics and general ^uspace/ problem. Need for eye equipment due to glaucoma being a problem in older people and vision problems in children. Noted an infant mortality rate of 48 / ^{with} malnutrition contributing/ ^{factor.} Premature births V.D., and teen pregnancy are also problems.</p> <p>Wooding: F.P. been a problem for 10 years. Is utilized by those with <u>large families</u>.</p> <p>Need a health educator in connection with F.P. and should have own from Montserrat in 1979. A problem in further training for staff is inability to find replacement for duration of training.</p> <p>Matron: Noted that training in Montserrat is somewhat narrow and Wooding and there is a need for exposure. Emigration not a</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
<p>Dr. Wooding</p> <p>Mr. Franklyn Fairer</p> <p>Mr. Joe Lynch</p> <p>Mrs. Florence Daley</p>	<p>CMO</p> <p>Hosp. Admin.</p> <p>Health Inspector</p> <p>Matron/hosp.</p>	<p>10/Oct/77</p>	<p>Wooding: Listed preventive priorities as 1) immunization, 2) nutrition, 3) environmental sanitation. On curative side said gap in specialties/a priority concern. Need eye specialist, orthopedics, obstetrician, gynecologist, pediatrician and psychiatrist. Recognized that due to small size of island population, there may not be justification for these even if funds were available but seemed quite adamant as to the need for them. Said CARICON program in TA is ineffective to cover shortage of personnel. Suggested trying to attract retired persons to do specialties part time. Note general financial constraints.</p> <p>Matron: There are 12 District facilities (clinics) but will be 11 when the Plymouth clinic joins the hospital. District facilities need improvement. Listed 2 areas for improvement 1) basic equipment and, 2) room. Said Canada had started to install ... being equipment ... program terminated due to</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Dr. Vernon Buffong (Cont'd)			<p>abies. Includes oral hygiene education to raise awareness of the mother.</p> <ul style="list-style-type: none"> - In primary schools have dental representative to keep dent awareness up. - In junior secondary and secondary distribute toothbrushes and have some screening. There are also services to catch up on backlog. - Government's priority is for expansion of facilities and equipment. (Venezuela has donated office equipment) <p><u>Constraints</u> - lack of personnel, 2 expatriate hygienists now 1 in the school programs and one in the clinic. Should have expanded duties - auxiliary able to do some restorative work such as fillings and government has agreed in principle. However budget doesn't allow salaries to attract qualified people Need 1 hygienist for cleaning teeth and 2 for the school programs</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Dr. Vernon Buffong (Cont'd)			<p><u>Aside:</u> Montserrat was nominated as a model dental system and St. Kitts has visited to adopt it for herself.</p> <p>- Not enough dentists either. CDA sponsored a dentist a month with funding from the Canadian government but that was dropped in 1972 and is on volunteer basis now</p> <p>- Have only one car contributed by Montserrat government - constrains clinic programs and ability to bring in patient to Plymouth. Also visiting dentist uses it when here.</p> <p><u>Areas for external assistance</u> - 1) Personnel (training) services i.e. expanded duty auxiliary, dental training and or public health type, short term analysis of situation. 2) equipment and facilities, 3) education aids - visual aids etc/continuing^{education} for personnel, 4) transportation (mentioned minibus for bringing children in and to transport visual aids movie projector etc. to schools).</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Dr. Vernon Buffong (Cont'd)			<p>police, prisoners, blind, over 60, indigent and institutionalized. (conservative estimate is 60-65% of pop.)</p> <ul style="list-style-type: none"> - Uses statistics for feedback to assess program, effectiveness, planning and budgeting. - Government places high priority on dental program after MC - <u>Problems</u> - 80% of children have extensive decay and anterior tooth loss due to poor post-weaning nutrition and oral hygiene, as well as lack of motivation and awareness. ^{is a} Retention of teeth/not/high social priority. High incidence of periodontal disease in young children due to lack of oral hygiene. <p><u>Nature and scope of system</u> - preventive and services.</p> <p>Have 100% screening coverage for pre-school as well as topical fluoride 2/yr. primary school. Coverage is 100% in screening and service work as fluoride rinse. Wants to develop 3rd</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Samuels (Cont'd)			<p>distribution. There is no community based delivery system currently but hope to have CBD program by 78. This will be done through the government health clinic. The government has made F.P. nursing part of compulso curriculum at hospital. Seven were trained last year and 9 will complete F.P. training this year. Duration is 6 months @ one lecture a week in the hospital and FP clinic.</p> <p>When program is installed in government clinics, nurse will be given an allowance for extra work.</p>
Dr. Vernon Buffong D.D.S.	Chief of Dental Services	11/Oct/77	<p>planned</p> <ul style="list-style-type: none"> - Started dental program in 71 with a /emphasis on preventive care. Due to extensive dental problems on the Island it was necessary to provide extractions and other services. - Free dental health services are provided to all children in pre-school, school, pregnant women (250-300/yr), nurse

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Samuels (Cont'd)			<ul style="list-style-type: none"> - 3 government MDs work at clinic for honorarium of E.C. \$1000/yr. They work Tues., Thurs., Fri. The volunteers are all professionals employed by government i.e. Vice-president of MFPA is also CMO. - Government and MFPA co-operate closely. - Only 1 person in secondary schools, a P.C.V. - Samuels Family Life Training proposed training 4 teachers to teach F.L.T. in school and IPPF, N.Y. & London said they would cover cost of training. Government agreed and hope to train teachers soon. - Proposal to place condom vending machines in public places was turned down by government on the basis that it would contribute to promiscuity. Currently there is the Plymouth Clinic/ and one U.S. trained F.P. trained nurse at St. Johns Clinic who does contraceptive distribution - a field worker who does deliveries and contraceptive

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Jack Collins (Cont'd)			<p>The physical facilities of the Water Authority were considered by Collins to be inadequate as to location, size and quality.</p> <p>Collins judged his administrative staff to be of good quality. There is an administrator in training but there were some doubts expressed as to whether he would return. Collins expressed some concern as to the efficiency of some regional training programs for water technicians.</p> <p>User charges are EC\$ ^{gallons} 2/1000/for private homes and ^{EC\$} 2.50/1000 ^{gallons} for commercial establishments.</p>
Mr. Samuels	Director, Montserrat Family Planning Assn.	11/Oct/77	<p>History of M.F.P.A. - Started 1966 on volunteer basis. 1973. - IPPF decided program was insufficient to meet needs so obtained building for clinic. The IPPF provides a small grant to the MFPA of EC\$ 1,000.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Jack Collins (cont'd)			<p>Collins referred to political meddling which inhibited the Water Authority. He estimated depreciation at/65,000 pa. ^{EC\$}</p> <p>Supply is a major problem particularly during the drought period when he must utilize inefficient sources. Two wells are currently out and he is waiting for a driller from St. Kitts. Collins has identified two new sources of good quality water which he would like to bring into the system. These would add 210 gpm to capacity. Estimated cost is £ 2 million.</p> <p>At the present time some consumers are disconnected during periods of low supply. Disconnections are also made as service charges are in arrears.</p> <p>Collins is not responsible for sewage disposal (The system consists entirely of septic tanks) but he considered it important that a disposal plant for primary treatment be installed in the Plymouth area.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Kenneth Lee (Cont'd)			Coordination with the water authority through the Town and Country Planning Board was said to be good.
Jack Collins	Manager, Water Authority	10/10	<p>Collins is a British citizen on contract to manage the Water Authority. The Water Authority has existed since 1974.</p> <p>Collins said house connections now total 3000 or about 75% of dwellings. He confirmed the government target of piped water to every home. Connection charges and the amount to be paid to Public Works for construction are now under revision. New connections have thus temporarily been discontinued.</p> <p>Collins said that the Water Authority was meeting operating costs and could be setting funds aside for depreciation if the Board would permit this. Throughout the conversation</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Kenneth Lee (cont'd)			<p>Lee's comments on PAHO were positive. He indicated PAHO has been responsive to their needs within their financial resources which were now diminished. He did note some reservations as to the quality of PAHO regional training programs, mentioning allied health training in particular.</p> <p>His comments were equally positive on CMRH.</p> <p>Public Health legislation is outdated. A revision was underway a few years ago but was set aside when CMRH/CARIC health secretariat attempted to draft model legislation for the region, an exercise which apparently has not been completed.</p> <p>The escalating costs of drugs was mentioned as a further concern of the government. There are also some delivery problems. Montserrat has positive interest in the national drug formulary proposal.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Kenneth Lee (cont'd)			<p>External assistance needs were stated to include water, training overseas for PH nurses and Ph Inspectors as well as for medical technologists for which there is a retention problem. Currently there is 1 Med. Technician in training, one part/^{time} trainee and one CUSO.</p> <p>The government's program in nutrition centers on the school lunch program. Inability to assure consumption by those for whom it is intended has discouraged the government from placing more emphasis on MCH feeding. Some support for the school lunch program is provided by New Zealand. WFP assistance has been sought but the response has been that per capita income is too high and the scale is too small. A WFP was said to exist in Barbados, however. A regional program with deliveries through Antigua had existed a few years ago but broke down.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Kenneth Lee (cont'd)		10/10	<p>enteritis, immunizations (tetanus, DPT, typhoid, whooping cough, smallpox and measles), and sanitation (including refuse and aedes programs). Health statistics have not been adequately maintained during last couple of years due to costs.</p> <p>Main health problem was said to be water distribution. The constraints here are funding and supply. The objective is piped water in every home.</p> <p>The government encourages FP; program is operated by IPPF.</p> <p>Government desires to increase preventive dentistry. A program for training dental hygienists is in progress. P.C. support to this program has been good. Help is also being achieved on an intermittent basis from the Canadian Dental Association. Local hygienists will be sent to Trinidad for training.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Dr. Wooding	CMO (cont'd)		<p>laws are out dated and have no teeth for enforcement. There is an effort to update these laws. Prescribing by these dispensaries is carried on according to Dr. Wooding including prescribed drugs such as antibiotics.</p> <p><u>Nurse Training</u></p> <p>Basic nurse training is 3 years in the hospital with lectures and practical work. An extra year is required to become a staff nurse, nurse midwife etc. There are 12 persons in basic training this year although none will graduate this year. 3 nurses in the post basic course are expected to graduate this year. Licensure is by local examination. Wooding indicated a desire to have the exam drawn up outside the island in order to standardize the procedure. Noted that a nurse from Montserrat with 2 1/2 training and years went to Barbados /was downgraded to 1st yr. status. Training was 5 1/2 years in her case.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Dr. Wooding (Cont'd)			<p>There is no systematized way of projecting staff needs at the hospital. Matron indicates the positions needed on a yearly basis.</p> <p>Says emigration, attrition not a problem any more. United Kingdom has closed up to RNs and U.S. and Canada are increasingly difficult to emigrate to.</p>
Kenneth Lee	Permanent secretary, Ministry of Education, Health and Culture.	10/10	<p>Described health status of Montserratians as good even by Caribbean standards. The health system was viewed as quite adequate. Professional staff consists of the CMO, Surgeon, 2 district health doctors, 3 Public health nurses, 12 district nurses and 3 doctors in private practice.</p> <p>Objective of health services was said to be immediate access to primary health care. Programs were indicated to be MCH,</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Dr. Wooding	CMO	12/Oct/77	<p>Subj: Pharmaceutical System and Nurse Training.</p> <ul style="list-style-type: none"> - Pharmacy System: No quality control of drug because legal quality control no means of testing. No/standards for drug/either. - Training - Previously used dispensaries, trained for 3 years. Exam was licensure. - There is presently a Montserratian training, in B'dos wh will graduate next year and return. Currently there is one CUSO pharmacist working at the hospital assisted by dispenser. <p>There are 3 private pharmacists (actually dispensers) practicing in Montserrat, one trained in Antigua and 2 here They order their own supplies, mainly from England but also from the U.S. and Canada. They must have permits to import and there is a break down of drug by type at customs as some drugs are duty free (notably antibiotics). Pre-scribing of dangerous drugs is proscribed by law but the</p>

Island: Montserrat

AID should explore with IPPF the continuation of program support under an integrated MCH/FP Activity within The Ministry Portfolio.

AID should explore the feasibility of encouraging PYCs to meet some of the health service needs of the islands, including those mentioned above.

AID should explore further with the GOM the establishment of a nurse practitioner or MEDEX concept. Studies on community acceptance and effect on recurrent costs would be required as part of exploratory discussion.

AID should consider a regional manpower pool in selected areas.

Island: Montserrat

3. Is there enough information available to justify programming?

Although there are some gaps in data (diverse incidence), data are generally available and adequate. The team believes there is sufficient information to identify appropriate sector emphases and to state project outlines within a DAP context. The establishment of absolute project priority rankings is not possible at this time, though the team is inclined to believe sewerage^{systems} would rank number one, followed by water. Programming at the PID level would be possible with minimal additional data collection and analysis. Data of varying quality is available for programming beyond the PID stage.

Recommendations for A.I.D.: Consideration of programming in the following areas is recommended:

- Water, subject to the verification of feasible cost.
- Sanitation (rural latrines and Plymouth sewerage)
- Training (exposure and continuing education in various areas mentioned under problems.
- Support for the preventive dental program (training dental extenders, dental education materials, vehicle, etc.
- Support for supplementary feeding program.
- Support of CARICOM program for reducing drug costs and establishing regional formulary.
- Upgrading of clinics (among other things they will facilitate FP Program on a community basis).
- A regional eye screening and lens grinding capacity.

Island: Montserrat

K. Other (Including extrasectoral impacts on health)

IV. Evaluation of Actor's Perceptions vs. Situational Analysis

A. Do health policy, goals, and priorities match known health needs?

Absence of data precludes complete verification. The goals and priorities assigned to MCH, nutrition, dental, and water and sewage appear generally consistent with known health needs. Moreover though the system is hospital based a significant clinical program is being maintained to provide services in priority areas. It should be noted, however, that the policy, goals and priorities appear not to have been set exclusively on health considerations. The Chief Minister was said to believe that economic development of the island could best be achieved through educated and healthy children. A factor in the decision to build the hospital was said to be as a means to attract retirees. With some gaps, the health system appears to be meeting the basic health needs of the population. The need for specialist coverage, however, could not be verified by available data.

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Among these "if God wants a woman to stop having babies he will cause it."
There are misconceptions governing the use of orals. If drugs are missed
the user will catch up by ingesting the backlog of pills.

In the dental area loss of anterior teeth is not socially undesirable.
In fact it is a prestige symbol if dentures with gold showing are the
result.

Island: Montserrat

Other	198,300
Latrines	<u>5,000</u>
	EC\$ 1,159,707

The total for health represents about 13% of the recurrent budget (1,159,707 out of 9,016,750).*

The only item in the capital budget is an amount of 143,940* towards the cost of completing Glendon hospital.

Information on the cost of health care is only available on a partial basis. Costs of hospital services were recently revised and were published in the Montserrat Mirror of Oct. 7, 1973. Dental fees charged to private patients was ascertained. FP services are free. Costs of private practice were not ascertained nor were we able to estimate the percent of family income spent on health.

J. Socio-antropological Aspects

Morbidity is not accepted as a norm for the most part in Montserrat. There is an orientation on the part of the population towards a physician-centered, hospital based health care system. Self referral to an M.D. is the result of this orientation. Breast feeding is on the decline both absolutely and in duration of time. This has led to 1^o and 2^o weaning malnutrition when appropriate weaning foods have not been substituted. For example "relishes" meat and fish are not thought to be appropriate for children and they are given only the gravy in many instances.

There are also many superstitions and misconceptions concerning F.P.

* EC\$

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I. Financing: The health system is financed by a combination of means - public (local revenues), donors (UK budget subsidies and capital aid from the UK and others), special program contributions (IPPF, Canadian Volunteer Dentists, Peace Corps, etc.), and user charges (payments for private consultations, drugs purchased through pharmacies, hospital fees, water fees, etc.). Professional services are available free to about 60-65% of the population, i.e., children, pregnant women, aged, indigent, certain government personnel, etc. Information on the relative contribution of each source is only partially available. The Provident Fund does not provide medical benefits at the present time.

Budget allocations for health are essentially those to the Ministry of Education and Health. Any inter-ministerial transfers are so small as to be negligible. The Water Authority is self-financed and is not included in the budget estimates.

Recurrent costs are as follows:

Personnel	EC\$ 603,907
Dental	10,500
Infant Welfare	60,000
Medical Supplies	27,000
Drugs	110,000
Pest Control	30,000
Sanitation Workers	100,000
Lab Supplies	12,000

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efficiency so quality control is absent. Regulations concerning drugs and dispensing of drugs are outdated and have no enforcement teeth. The CMO mentioned that an attempt is being made to update the laws.

While the law does proscribe dispensing of certain dangerous drugs without a prescription (such as antibiotics), such practices do exist.

Island: Montserrat

II. G. (continued)

cost/bed of a similar facility in the developed world) which increases the number of beds to 67. The old 6-bed hospital is to be used as a geriatric ward.

There is, even now, a problem with maintenance of expensive equipment. The chief medical officer has expressed concern that this will continue to be the case.

Staffing ratios can be deduced from the data under Health Facilities in the Statistical Digest.

III. H. (continued)

in hospital pharmacy. Currently the only qualified pharmacist in the public sector is a CUSO volunteer.

Training in Montserrat is of the inservice type, lasting 3 years. At the end a qualifying exam is given for licensure.

Currently there is a student in a pharmacy course in Barbados. He is expected back in '78. Attrition is a problem with this category of manpower and while there are only two slots in the public sector, the prediction of training needs ^{is} a risky business.

There are no means for testing drugs to determine their quality or

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Island: Montserrat

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was provided. Relevance of training to tasks was not indicated to be a problem, though there were some complaints on the quality of regional training. Rate of production is varied. In the case of nurses (3-4 per year) it is adequate. Training of MDs is in excess of the capacity of the system to absorb / ^{them.} Training of health auxiliaries is constrained by funds.

Emigration was indicated to be a problem only relative to medical technicians. In the case of doctors, emigration is at the student level as there is foreknowledge of lack of opportunities.

G. Health Facilities and Equipment

Number of various facilities and utilization rates for the hospital are readily obtainable from the 1977 Statistical Digest. The distribution of clinics can be found in Section IIID. The services the clinics perform are relevant to demonstrated needs - high rates of diabetes and hypertension as well as infant and child malnutrition. A new Hospital has been constructed at considerable expense (2-3 times the
(continued on next page)

H. Pharmaceutical System

National formulary - There is no formulary at present but work has begun on the development of one. Montserrat is also a member of the CARICOM effort to buy drugs in bulk to reduce costs.

There is a pharmacy at both the hospital in Plymouth and at the clinic in St. John's. Both are public. There are also three private pharmacies in Plymouth staffed by as many dispensers. One was trained in Antigua and the other two
(continued on next page bottom - see III.H)

Island: Montserrat

III. E. (Cont'd)

Two wells had to be closed because of the drought and some rationing has resulted. There are two spring across the island from Plymouth that could be developed at approximately £1.5 - 2 million and would produce 200 gals/minute. This would introduce some economies of scale into the system.

- The Administrator has introduced monthly billings to increase cash flow for maintenance purposes.

Data on cost of water are available in attachment.

17.

Island: Montserrat

E. Environmental Sanitation:

Water Supply - The quality of water in Montserrat is quite good. It is spring water, chlorinated and pure from the tap. Eighty percent of dwellings are connected however this doesn't accurately reflect the population uncovered which is probably okay as is. The system is self-supporting right now due to a hike in rates to \$2 EC/1000 gals for homes and \$2.50/1000 gals for industry. This has had some political ramifications though and there is some pressure for reducing the rates. (However, the depreciation isn't covered in the rate hike.)

(Continued on next page) (See III.E. cont'd.)

F. Manpower: The quantity of personnel is readily obtainable from the statistical digest and the budget estimates. Population-personnel ratios may be rapidly calculated using The Digest. Staffing patterns may also be induced from these sources by institutions. As most actors play multiple roles, staffing patterns by services are not maintained.

The majority of health personnel are located in or near Plymouth. District nurses, however, are expected to reside in or near their districts.

No consolidated data was available on training. All key personnel have received training in developed countries. Secondary level personnel are generally trained in the region (Barbados, Trinidad and Jamaica). Nurses are trained locally. For some categories of personnel (dental hygienists, medical technicians) staffing needs have been projected and training programs planned. Lack of continuing education opportunities, exposure for nurses, etc. were indicated to be unmet needs. No training cost data

(see page after continuation of III.E.)

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judgements are not available. Generally speaking, from discussions and observations the team assessed the quality of care to be quite high. Efficiency was some what low due to the lack of an effective referral system and organizational problems.

Demand for Health Services - The occupancy rate of Glendon Hospital was 53.58% in 1976 indicating low demand for this type of service. Data on clinic utilization are not available so no judgement can be made. Demand for MCH services is thought to be quite high.

Government Priorities - On the preventive side the priorities of the government seen to fit the needs. However, the governments stated need for 6 specialists as a priority seems to indicate a tilt towards curative medicine. On a financial basis this is unrealistic (and they mentioned a possible solution as they recognized this).

While there is a preventive program priority statement there is a definite lean to curative systems .

Specific programs - All the specific programs mentioned in the outline are in operation except for occupational health and social security. Family planning/^{is}privately run (IPPF) and Vector Control is essentially a maintenance program. Nutrition education is done at the clinic level but not in the mass media. Supplemental feeding is carried out in school lunch programs. A locally made, inexpensive weaning food is not available.

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clinics are located throughout the 3 parishes and are visited 1/wk by a physician (See from 40-80 patients in 2 hour period). Three Public Health Nurses supervise the activities in the three parishes. They administer the programs and supervise the resident district nurses in the clinics.

b) Target Population

Public services are free for school children, pre-schoolers, pregnant women, police, prisoners, nurses and medical personnel, the blind, the indigent and the institutionalized.

c) Services Provided

Chiefly MCH, Dental, immunizations, nutrition (supplementary feeding), F.P. (to be expanded to clinic facilities but still PYO), basic curative and preventive care.

d) Referral System

Some referral from clinics to hospital but poorly organized. With the exception of the F.P. and dental programs no data are available on patterns of utilization and specific categories of users are not documented with the exception of Glendon Hospital (see Statistical Digest). It is thought by the government that MCH programs are well attended. Immunization is required by law and coverage is in the 90th percentile.

Costs - The only cost data available are covered under the section on Finance. Quality and efficiency of services - data regarding these

Island: Montserrat

of participation of the health personnel in this planning exercise was not clear. No separate written statement or elaboration of policy goals for the health sector appeared to exist. Such elaboration was elicited through interviews. In addition, the interviewees indicated that the CARICOM stated goals for the sector were accepted by Montserrat. On a decentralized level, notably dentistry, detailed planning does exist.

Coordination does appear to exist and is facilitated by the small numbers involved and the location of key personnel at the new hospital.

Formal information systems are weak. At the present time the position of health statistician does not exist and reporting of health status information by physicians is not enforced. Although the key actors felt the CAREC reports were useful, Montserrat submits no reports to CAREC. Word of mouth communication appears extensive. Only relative to VD did we receive conflicting information.

D. Health Services

Principal provider - According to the CMO, the MOH, the P.S. and other health program personnel, the public sector is the major provider of services. They estimate that 60-65% of the population has free basic preventive and curative services. There are 3 physicians in private practice exclusively and government physicians also are able to practice privately.

Coverage

a. Location

The only hospital is located in Plymouth, the capital. 12 health

III. B. (Cont'd)

is on the increase, mainly 1^o and 2^o Gomez according to discussions with health personnel but no hard data exist on this. There is also no data on the various nutritional deficiencies. Breastfeeding is on the decline but there is an attempt to reverse this through health education.

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B. Health Status Indicators

Health Status indicators are found in the Statistical Digest for the years 1966 through 1976 as they relate to mortality. Morbidity rates are not available for 76 or 77. What there is, is of such poor quality as to be useless for national planning. Cases of illness are not reported by physicians. Nurses do keep records and send them to the matron but they are not tabulated or put in statistical form. Even these data were not available to the team due to the upheaval surrounding the move to the new hospital. Chronic diseases were the leading cause of death. Malnutrition
(Continued on next page)

C. Administration and Planning: Administratively, the responsibility for health lies with The Ministry of Education, Health and Culture. The Minister, Rose Tuitt, has held her post since 1971. No organigram as such is available covering the health services. Table 72 of the V Statistical Digest in effect represents a simplified organigram. The key positions are: The Chief Medical Officer (Dr. C. Wooding), The Administrator (Mr. Fairer), The Matron (F. Daley) and The Chief PH Inspector (Mr. Lynch). The Dentist (Dr. V. Buffong), while organizationally under the CMO, appears to operate in considerable autonomy. Responsibility for the district clinics is delegated to the district medical officers. Very little written data on the operation of the health system appeared to be available centrally, although some material and data is available on a decentralized basis, e.g. at the dental and clinic levels.

A draft five year development plan does exist for Montserrat which includes some goals and objectives for the health sector. The degree

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III. A. (Cont'd)

indicated an increase in rural to urban (Plymouth) migration among young people for employment reasons.

Data are not available for 1976 and 77.

Quality of the 75 figures is not readily ascertainable.

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approximately 25% of the women at risk. Slightly more than half use
orals. About 35% of the new accepters in 1976 (119 out of 317) were
girls 19 and under.

C. Private Indigenous Sector (Discuss nature, magnitude, and impact of their
role in total health sector activities):

As in Antigua there is a fusion of private and public practice. Government
MDs are expected to give priority to public service but there is no
minimum time requirement and pay is at a flat rate. The dentist has a more
structured scheduled - mornings public service, afternoons private. In
addition to "Government" doctors there are three MDs exclusively in private
practice. Data is not readily available on the impact of the private
sector on total health sector activities.

III. Data Availability (Quantity and Quality)

A. Demographic

The 1976 Statistical Digest gives most of the categories of statistics
through 1975. Literacy is not mentioned but since there is universal
primary education, it is reasonable to assume a rather high literacy rate.
Ethnic composition is not covered but the majority of the population is
of African descent. There are an increasing number of expatriates retiring
in the country with the encouragement of the government. Migration
figures for the sixties were somewhat suspect so there are revisions to
the rate of national increase for 1970. The urban/rural dichotomy is not
great. However, discussions

(Continued on next page.)

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- PAHO is providing some scholarships, pesticides and TA but of a limited nature.
 - Venezuela was said to have expressed interest in providing aid to the health sector. Some dental equipment (chair, drills, etc.) and an ambulance have recently been provided.
 - UK financed and equipped the new hospital. Planning for the hospital was said to have begun over 10 years ago. The last clinic constructed by the UK was built about seven years ago. As a crown colony, the UK also underwrites the budget deficit.
- B. P.V.O.s (For each, discuss the nature, magnitude, timing, and duration of their involvement)
- The New Zealand Save the Children's Fund provides milk for the school lunch program. Approximately 1500 children participate in this program.
 - CUSO is providing one medical technologist
 - Canadian dentists individually arrange one month visits on a more or less continuous basis to supplement national staff.
 - IPPF operates a FP clinic in Plymouth and has a small outreach program in St. Johns. It is planned to begin a community based distribution program in 1978. The program currently provides most forms of contraception except sterilization. The program operates with the support of government, including a small grant. In addition, 3 government doctors work part-time at the clinic. District nurses will be used in the community program. Contraceptives are provided free to accepters. Total female accepters as of the end of 1976 was 820 or

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Four of every five children have significant arterial decay. Also high rate of periodontal disease. Dental service lacks personnel, education materials and transportation to increase intensity and efficiency of services.

Cultural perceptions on bearing children limits acceptance of family planning. Also understanding of importance of following instructions concerning prescribers for contraception.

- C. Nature, Scope, Intensity of Current System: The system is primarily hospital based with some movement to clinical services in preventing health and MCH areas.

The scope of the system is that approximately 65% of the population consisting of babies and children, pregnant women, the aged (over 60), indigents, prisoners and public servants.

There is not a full range of coverage. Medical services lack specialization. Dental care for elderly does not include dentures. Very limited screening of school children except for dental health problems.

FP is currently operated as a private program. Ministry would like to incorporate FP into the program of MCH services but fears loss of IPPF funding.

- D. Priorities: Water distribution, MCH (including immunizations), nutrition (especially supplemental feeding) and sanitation were stated as main priorities. Also stated as priorities were the prevention of reinfestation of

Island: Montserrat

gynecologist, orthopedic and ophthalmologist were areas mentioned. However, recognized need is only part-time. Personnel coverage during period of staff training is a further problem. Inability to maintain hospital equipment. Size and basic equipment of clinics for primary health care and public health purposes. Lack of capacity for detecting glaucoma problems among older persons and vision problems among young. Prematurity was said to be on the increase as are teenage pregnancies. There was disagreement between matron and minister as to whether VD is a problem. Infant mortality was also said to have increased although statistical significance given small population was questioned. Lack of screening and referral system was also identified as problem by matron (as well as training of nurse practitioners) but CMO is opposed. The escalating cost of drugs and absence of statistics system were also expressed as concerns.

Relating to water, political meddling was said to preclude efficient and financially sound system. Also location, quality and quantity of physical facilities are inadequate. Lastly the effect of drought on water supply is significant (reductions on the order of 30-40%).

The smallness of the population and high per capita income was said to preclude nutrition program assistance from WFP. Smallness of population is also a factor in meeting staff needs.

The failure of donors to respond to requests (either positive or negative) was cited as a problem for meeting health needs.

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COUNTRY SUMMARY

Perceptions of Key Actors

A. Policy Goals: Immediate access by general population to Primary Health Care, both preventive and curative. This includes much, nutrition and immunization of all children less than 5 years of age. A further goal is potable water connections to all homes. (Adequate housing and sanitary toilet facilities were also mentioned as policy goals). FP services are provided primarily through IPPF. There is active government policy support and encouragement of the program, however. Policy goals generally were said to be those articulated for the region by CMRH.

These policy goals are generally consistent with those stated in the 5 yr. development plan.

The provision of basic dental services and, progressively, preventive dental to 60-65% of the population is a further policy goal.

3. Problem Areas (Their evaluation of health situation) Sanitation (24% of dwellings lack toilets; basic system is septic tanks), malnutrition (all age groups), and water distribution were identified by all as main problem areas. Other problems noted included: training (need access to system which facilitates intensive exposure, also questions as to efficiency of regional Ing-Teachers don't show up, etc.). Attraction and retention of staff (MD students don't return - however government can not offer positions and private practice is too small - and medical technicians experiencing turnover). Lack of specialized staff (Pediatrician,

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mosquito borne diseases, preventive dental care, the elimination of gaps in curative services and selective training.

- E. Constraints to Reaching Goals and Priorities: Finance and staffing are general constraints. The British Manager of the Water Authority also viewed political control of the authority as the major constraint on the water sub-sector.
- F. Areas where AID Assistance can be most useful: Water and sewerage were identified as the areas where AID assistance would be most useful. Beyond this area no ranking of external assistance needs were indicated. It was apparent that any assistance towards solving the problems or alleviating the constraints noted above would be welcomed by the government.

Relative to water, the authority manager indicated that supply expansion was critical. Two additional springs with a capacity of 210 gpm have been identified for this purpose. The manager estimated 2 million as the cost of this project.

II. Non-Government Activities

- A. Other Donors (For each donor discuss the nature, magnitude, timing, and duration of their involvement)
- Peace Corps is providing 2 dental hygienists and 1 health educator. A program to train Montserratians to replace the hygienists is underway.
 - Canada was a major contributor to the capital costs of the water system. Canada also provided some equipment for the clinics, e.g. eye screening. No Canadian aid is currently being provided to this sector.

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Four of every five children have significant anterior oral decay.

Also high rate of periodontal disease. Dental service lacks personnel, education materials and transportation to increase intensity and efficiency of services.

Cultural perceptions on bearing children limits acceptance of family planning. Also understanding is lacking of importance of following instructions concerning prescriptions for contraception.

- C. Nature, Scope, Intensity of Current System: The system is primarily hospital based with some movement to clinical services in preventive health and MCH areas.

The coverage of the system includes approximately 65% of the population consisting of babies and children, pregnant women, the aged (over 60), indigents, prisoners and public servants.

There is not a full range of coverage. Medical services lack specialization. Dental care for elderly does not include dentures. Very limited screening of school children except for dental health problems.

FP is currently operated as a private program. Ministry would like to incorporate FP into the program of MCH services but fears loss of IPPF funding.

- D. Priorities: Water distribution, MCH (including immunizations), nutrition (especially supplemental feeding) and sanitation were stated as main priorities. Also stated as priorities were the prevention of reinfestation of

Montserrat

coverage during periods of staff training is a further problem. Inability to maintain hospital equipment; size and basic equipment of clinics for primary health care and public health purposes; lack of capacity for detecting glaucoma problems among older persons and vision problems among young. Prematurity was said to be on the increase as are teenage pregnancies. There was disagreement between matron and minister as to whether VD is a problem. Infant mortality was also said to have increased although statistical significance given small population was questioned. Lack of screening and referral system was also identified as problem by matron (as well as training of nurse practitioners) but CMO disagreed. The escalating cost of drugs and absence of statistics system were also expressed as concerns.

Relating to water, political meddling was said to preclude efficient and financially sound system. Also location, quality and quantity of physical facilities are inadequate. Lastly the effect of drought on water supply is significant (reductions on the order of 30-40%).

The smallness of the population and high per capita income was said to preclude nutrition program assistance from WFP. Smallness of labor pool is also a problem in meeting staff needs

The failure of donors to respond to requests (either positive or negative) was cited as a problem in meeting health needs.

Island: Montserrat

COUNTRY SUMMARY

I. Perceptions of Key Actors

A. Policy Goals: Immediate access by general population to Primary Health Care, both preventive and curative. This includes MCH, nutrition and immunization of all children less than five years of age. A further goal is potable water connections to all homes. (Adequate housing and sanitary toilet facilities were also mentioned as policy goals). FP services are provided primarily through IPPF. There is active government policy support and encouragement of the programs, however. Policy goals generally were said to be those articulated for the region by CYRH.

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OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Emile Gumbs	Chief Minister	10/10/77	Mr. Gumbs occupies the highest political/administrative position available to Anguillians. Didn't seem to be a very dynamic man and didn't have too much to say about health.

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Dr. Ross (cont'd.)			Major problems cited were the need for some more equipment and the periodic services of a specialist such as a psychiatrist
Mr. Campbell Fleming	Gov't. Assistant to Minister of Social Services	10/10/77	Mr. Fleming was Mrs. Lake-Hodge's "right hand" man in Ministry affairs. He seemed to be particularly knowledgeable about sanitation problems. During our last meeting, he stressed the need to relocate the present hospital to a more suitable location, i.e. more central, better water and sewerage systems available. Tended to be a strong supporter of governmental activities.
Mrs. Constance Rey	Admin. Secretary for Ministry of Social Services	10/10/77	As part of the Secretariat of the Ministry, Mrs. Rey's function appeared to be that of the Chief Executive Officer, screening and administering all items for the Minister. Mrs. Rey was my primary contact during my stay By and large she echoed Mrs. Lake-Hodge's concerns with MCH, especially nutrition as the primary problems to be addressed.

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Dr. Pollard	Dental Surgeon	10/11/77	<p>Dr. Pollard is responsible for dental care on the island. He only expressed a need for some minor equipment and seemed to be fairly satisfied with the services being provided. His dental clinic was the most modern and complete yet seen on the islands visited. He wants to start a fluoridation campaign. Water fluoridation would be very difficult to accomplish because of the fragmentary nature of the water system. Dr. Pollard has been in Anguilla almost 7 years and appears to have every intention of staying.</p>
Dr. Ross	Medical Officer	10/11/77	<p>Dr. Ross was nominally in charge of all health services. Until the 11th of October, he was the only doctor on the island. In reality he confined himself to clinical medicine. He seemed fairly content with the status of the hospital and health center services. Supplies normally arrive on a timely basis. Maintenance did not appear to be a major problem, although there are pieces of equipment that can not be operated for lack of technical expertise.</p> <p>Refrigeration storage was a major problem as was variation in</p>

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OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Mussington (cont'd.)			<p>Refuse disposal; has 2 garbage trucks which are supposed to collect twice a week. Claims to have over 3000 collection sites. Maintenance is a problem. They can cover each site only every six months or so.</p> <p>Food control; they make initial visits to food handling locations and restaurants.</p> <p>Responsible for monitoring water quality. Construction of water systems is responsibility of water section of Public Works Department.</p> <p>Has 3 people in Public Health Inspectors office and 20 laborers for refuse disposal. He has had basic public health inspector training in Jamaica and an additional 4 month course in food control.</p> <p>Needs - see need for trained assistant and technical assistance in field of pest control; more insecticides; new modern truck for garbage collection; study of alternative methods of refuse disposal; need advice on more effective disposal of sewage. Perhaps a pumping mechanism is required; more overall training.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mrs. Harris	Hospital Matron	10/11/77	<p>She supervises the nurses in the hospital. She basically saw the needs as being MCH and nutrition. Felt that the greater portion of mothers are breastfeeding, although some are not. Saw quite a few mental defectives. May be a need for a home for them. Septic tanks were needed for health centers. She seemed fairly public-health minded.</p> <p>Her staff consists of 10 staff nurses, including those in health centers and 7 auxiliary nurses. Emigration has been a problem. Continuing education for nurses is needed.</p>
Mr. Stanley Mussington	Senior Public Hlth. Inspector	10/11/77	<p>Mr. Mussington has general responsibility for sanitation. His section does routine house-to-house inspection for general cleanliness. Most people are responsive to their advice. Latrine sanitation is major problem. Of the population, 30% have flush toilets attached to septic tanks; 45% have pit latrines, the remainder nothing.</p> <p>Responsible for insect control, mostly spraying for cockroaches</p> <p>Infectious disease surveillance; epidemiological case follow-up</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mrs. Lloyd (continued)			<p>Additionally, she was the owner of Lloyd's Hotel where I stayed. Primarily responsible for Valley Health Centre, which was the main health center.</p>
Mrs. Harrington	Public Health Nurse - East End Clinic	10/11/77	<p>Mrs. Harrington was the nurse in charge of the East End Clinic. She saw most important problems as scabies, colds, vitamin deficiencies and teenage pregnancies.</p> <p>Coverage in area was 75% of children.</p> <p>People seemed to be responsive to family planning. Wanted more for spacing and/or termination of family size after it had reached 4-10.</p> <p>Seemed to think that more health education was necessary to stem teenage pregnancies. Blamed societal changes on change in morals and attitudes.</p> <p>Felt that all health clinics should have phones and latrines and water supply.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Ms. Lewis	Public Health Nurse - Road Health Centre	10/11/77	Ms. Lewis was the nurse responsible for the Road Health Centre. Cited as health problems as neglect of children which caused scabies and malnutrition. She noted that since the lottery started, children's weights had gone down. This statement created a vigorous defense from Mrs. Lloyd and Mr. Fleming. Evidently, Nurse Lewis is considered something of a malcontent.
Dr. Guerl	Caribbean Food & Nutrition Institute	10/11/77	Dr. Guerl was in Anguilla completing a nutritional survey of school-age children. His impression was that undernutrition existed, but severe malnutrition was not a major problem. Final results would have to wait further analysis in Jamaica.
Mrs. Lloyd	Chief Public Health Nurse	10/10/77	Mrs. Lloyd is responsible for the preventive health activities on the island, which essentially includes the health centres' activities. She seemed to feel that the service coverage was pretty good and that all that was needed were additional supplies and equipment, i.e. refrigerator and paper (records).

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Name	Position	Date of Contact	Comments
Mrs. Lake-Hodge (cont'd.)			<p>k) MCH and FP - need for more equipment l) Hospital is short staffed, only 2 doctors.</p> <p>Most of Mrs. Lake-Hodge emphases were in the MCH category, particularly improved nutrition.</p> <p>Interestingly, Mrs. Lake-Hodge is the brother of Dr. Lake of Antigua.</p>
Mr. David LeBreton	H.M. Commissioner	10/10	<p>Mr. LeBreton, as H.M. Commissioner of Anguilla, has ultimate authority of governmental services and expenditures. He appears to wield a fairly direct control over the ultimate outcome of the island's activities. His attitude toward USAID's role in the area was that of helping to lift the financial burden from the U.K.'s back. He seemed to expect positive action from the various visits taking place. My personal impression was that he enjoyed playing diplomatic word games.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mrs. Albea Lake-Hodge	Minister of Social Services	10/10/77	<p>Mrs. Lake-Hodge is the Minister responsible for health affairs. When asked what were the principal health problems of the island, she listed the following:</p> <ul style="list-style-type: none"> a) Mental health - a surprising amount of violent behavior had been manifested recently. b) Specialty care is lacking, particularly an ophthalmologist. c) Hypertension - too much starch in diet d) Nutrition - problem of getting a balanced diet. Vegetables have to be imported from Puerto Rico. Cost of food continues to be high. Interested in obtaining supplementary food (milk) from WFP. e) Immunization - the major problem is keeping vaccines cold. f) Insufficient supply of pesticides. Eradication programs have been discontinued. g) There is no systematized water treatment. Majority of population gets their water from standpipes or cisterns. h) Sewerage - each house has their own septic tank or latrine. There is no system for pumping sewage from full septic tanks i) Refuse disposal j) Food control - need more training in food processing and sanitation.

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quite a bit more should be done. Nevertheless, overall the official awareness of health problems does appear to match the needs. Those needs being primarily in the area of MCH, nutrition and environmental sanitation.

B. Is there enough information available to justify programming?

Within the context of a regional program, I think there is enough information to begin planning. Program specifics would require a follow-up visit for further consultations. Direct bilateral assistance would require more extensive information gathering and planning.

V. Recommendations for A.I.D.

Anguilla is pretty well-served by the health system presently. Any A.I.D. assistance should be within a regional program, except for T.A. Specific programmatic areas to be considered are:

- nutrition supplementation and education
- family life education
- technical assistance in environmental sanitation, i.e. water quality control, refuse disposal, and vector control
- sewerage systems
- administration and management

The amount of personal income spent on health care and food is unknown. However, there was some indication that some mothers were diverting their disposable income towards the purchase of lottery tickets away from infant foods. The consequence being loss of weight in some children. See interview with Nurse Lewis.

J. Socio-antropological Aspects

Again all information available here was obtained through interviews. It is difficult to really know what the attitude of the population is toward the health care system. It appeared that people consider health as an important area - especially for children. The most evident indicator of changing attitudes are the increase in teenage pregnancy, the decline of breastfeeding among the younger mothers, and the rise of V.D. Many of the younger mothers may neglect their children, which leads to such health problems as scabies and malnutrition. This syndrome of behavior seems to be prevalent through the islands.

K. Other (Including extrasectoral impacts on health)

There was no awareness manifested through planning in the health sector, although agriculture and food costs obviously have a great deal of impact.

IV. Evaluation of Actor's Perceptions vs. Situational Analysis

A. Do health policy, goals and priorities match known health needs?

There appears to be a dichotomy of goals in Anguilla. Among the expatriate British working on Anguilla, there appears to be a certain satisfaction that the health priorities match the needs and that not too much more needs to be done. On the other hand, the Anguillans seem to feel that

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H. Pharmaceutical System

There were only two outlets for drugs - the hospital and the dental clinic. Evidently, the medical officer and dental surgeon ordered their own drugs which arrived in a timely fashion. Detailed information on ordering procedures was not sought nor thought to be available.

I. Financing

A detailed examination of the 1977 Anguilla capital and recurrent estimates of revenue and expenditure was made possible. The two primary sources of funding are local and direct British assistance. Most of the local funds are funneled into the recurrent budget (more than 50%) while the capital budget is almost exclusively funded by the United Kingdom.

The recurrent budget for the health sector accounts for approximately 15% of the total recurrent budget. Of that amount, 74% is spent on the hospital activities:

	<u>1977 Estimate - Recurrent</u>
Medical & Health (hospital)	406,441
Medical & Health (sanitation)	94,947
Dental Unit	<u>45,432</u>
Total	546,820

Small amounts for water supply are made through the Department of Public Works - \$72,137.

Specific breakdowns of functional, though not programmatic, categories are in the Budget Estimates.

G. Health Facilities and Equipment

Because of the small size of the island, good data could be obtained through observations and interviews. There is one 64-bed hospital offering out-patient and inpatient care, one health center and 4 peripheral health clinics. The hospital laboratory provides service for all facets of the health system. A separate dental clinic, which was extremely well-equipped, provides dental care. The hospital and laboratory appeared to be quite adequately equipped and all pieces of equipment, save one, were functioning. However, the occupancy rate was low - less than 50%, with most of those being maternity cases. Complete statistics on utilization were not available and it is questionable whether the medical records system would permit the analyses of those kinds of data.

The health centers and clinics, except for the main Valley Health Centre, were small 3-room facilities where small numbers of patients could be screened for prenatal care, hypertension and diabetes and child welfare. The equipment in most of the centers were simple and in some cases, old but still functional. Their greatest needs were refrigerators. The only cold storage was at the hospital. Unfortunately, not all of the centers had electricity. All could use an autoclave too.

Utilization figures were meticulously recorded in the centers, with aggregate data centralized at the main health center. Total numbers of population covered is not high, but the population itself is small.

All facilities were well-maintained - some of the centers did lack running water and septic tanks.

The dental clinic was the most completely equipped clinic yet seen on the survey (with the possible exception of the clinic on Montserrat.)

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F. Manpower

Like most of the islands, there is extremely detailed information on the numbers of workers in the health sector. Each person's salary is specified in the Budget Estimates.

During my stay, the medical staff doubled from one M.D. to two. Because of the size of the island, distribution patterns are less important than in other countries. Almost everyone is within 20 minutes of the hospital. Nevertheless, the health centers are located strategically throughout the island.

Training of nurses is not done on Anguilla. It must rely on the staff from other training institutions. Some students are provided with training grants to get their training elsewhere and then to return to Anguilla.

Appropriate training is particularly deficient in the case of the public health inspector. More advanced training is needed since he only has one year's training; his assistants lack any training at all.

In the laboratory, there is only one technician, which appears to be sufficient for the amount of work to do.

Continuing education is not readily available to the nurses and the need for further training in different aspects of community health appears to be warranted.

Finally, emigration has been a problem, especially on an island like Anguilla where the loss of a single individual could greatly affect the operation of the health system.

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D. Health Services

The only provider of health services on the island is the government. However, many people seek medical attention from doctors on the neighboring islands - St. Martin, St. Kitts, Virgin Islands, Antigua and Puerto Rico. Exactly who uses these other services and why is not really known, but it is believed to be a significant number of the population.

Accessibility and availability of minimum health services appears to be good. The hospital is a very short distance away from anyone on the island.

The hospital can only offer simple inpatient care; uncomplicated operations could be performed, but any case requiring specialized treatment has to be referred to another island.

The health centers concentrate primarily on the MCH services - antenatal care, child welfare and family life education. The other main service is to the elderly, particularly those suffering from diabetes and hypertension. These services extend into the home where the public health nurses seek to provide follow-up care.

Polio, smallpox, diphtheria, tetanus and pertussis immunizations are given regularly in the centers.

Precise data on coverage were not available. Most of the public health nurses estimated about 75% coverage of mothers and children.

Specific programmatic cost breakdowns are not available. The budget estimates only give total figures. However, based on these budget figures and a time study, specific costs could be calculated.

Data on quality and efficiency of services were not available.

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a Public Health Sister, who is responsible for the Public Health nurses and the preventive activities in the health centers; and the Hospital Ward Sister, who is responsible for the hospital nursing activities. The medical officers apparently assume control of all clinical, curative activities. The administrative duties are carried out by a hospital steward.

The Dental Department is a separate organization and is headed by a dental surgeon. This division is more a function of personalities than any organizational theory.

The supply system and auxiliary health services come under the medical officer and dental surgeon's responsibility. Although no written documentation was available, all concerned seemed fairly content with the supply and allied health systems.

The maintenance of buildings, equipment and vehicles fell under the authority of different jurisdictions. Some were the direct responsibility of the hospital, others of the Public Health Inspector, and others of the Public Works Department. An exact description of maintenance responsibilities was not given.

Although simple, the information system seemed to be fairly adequate (perhaps this again is more of a function of the island's small size than anything else).

No specific information on health policy was available. Nevertheless, a draft health policy with delineated sector goals was in the process of being drafted and may be formalized in the near future.

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B. Health Status Indicators

Only the 1974 census and the Annual Reports of the Chief Public Health Inspector have any formal documentation of morbidity and mortality. However, the records available in the health centers and in the hospital would appear to be complete enough to yield valuable data concerning specific causes of death and illness.

The greatest problems cited verbally were mental/emotional disorders, undernutrition, scabies, hypertension and some gastro-enteritis.

Specific information of nutritional status was being collected by Dr. Gueri of CFNI and should be available from that institute. Although specific data on breastfeeding were not available, the general consensus was that its practice was on the decline.

C. Administration and Planning

No formal organization chart of the health system was available for Anguilla. However, given its size and lack of complexity, reliable information was available (based on interviews) on organizational structures and lines of authority. It is a very informal system which is run much like a small town council. The Minister of Social Services is responsible for Health and Dental Services. The Department of Health has 2 medical officer positions and it is not clear if they share authority or if one is considered the Chief M.O. This has not been too much of a problem, since until recently, only one of these positions was filled. The 3 major subordinate positions are held by a Chief Public Health Inspector, who is responsible for sanitation, sewage disposal, epidemiological reporting, etc.;

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B. P.V.O.s (for each, discuss the nature, magnitude, timing and duration of their involvement)

Refer to section "A" - Other Donors (above).

C. Private Indigenous Sector (Discuss nature, magnitude, and impact of their role in total health sector activities)

There is none on Anguilla. However, people will leave the island to seek care on neighboring islands - St. Maarten, St. Kitts, Antigua, U.S. Virgin Islands, and Puerto Rico. The extent of the impact of these services is not known, but it may be significant.

II. Data Availability (Quantity and Quality)

A. Demographic

The complete 1974 census is available, which delineates most of the demographic characteristics of the Anguillian population. The accuracy of the report would appear to be quite good, since the island is small - 6519.

The crude birth rate in 1974 was recorded to be 25.0 vs. 37.7 in 1960.

The death rate was down from 12.7 in 1960 to 9.7 in 1974. Thus, the natural rate of increase per 1000 also was reduced from 25.0 to 15.3.

In addition, there is a great deal of data concerning migration, nationality, employment, fertility, life expectancy, marital status, age, schooling and water supply.

E. Constraints to ~~Reaching~~ Goals and Priorities

The largest constraint seen was money. Second was perhaps more education for current staff.

F. Areas where AID Assistance can be most useful

The key actors seem to feel that AID could be most useful by providing equipment, direct staffing, and further training. By and large, the feeling was that America would start donating doctors, refrigerators, new facilities etc. almost immediately.

II. Non-Governmental Activities

A. Other Donors (For each donor discuss the nature, magnitude, timing and duration of their involvement)

Occasionally, an American medical specialist, usually supported by the Baptists, will make a short visit to Anguilla. The regularity of this service is uncertain. However, it does fulfill a definite need for specialist care.

The PAHO provides assistance in the form of technical advice and training to Anguilla. Dr. Gueri of CFNI was in Anguilla completing a nutritional status survey of school children. Other members of PAHO/CFNI/CAREC have visited the island periodically.

Most of the outside support, of course, is from the British and the Canadians mostly direct budgetary support, construction of facilities or provision of equipment.

COUNTRY SUMMARY

1. Perceptions of Key Actors

A. Policy Goals

At the present time, Anguilla has no formal written health policy. However, it has expressed an interest in developing one and has produced at least one draft policy statement.

B. Problem Areas (Their evaluation of health situation)

In my discussions with the Minister of Social Services, Chief Minister, the Government Assistant and other members of the health system, the following problems were identified. Mental health, specialized medical care, hypertension, nutrition, water supply and sanitation, immunizations, dental care, and hospital staffing. Of these problems, the ones I heard most consistently were nutrition, water supply and sanitation.

C. Nature, Scope, Intensity of Current System

The feeling that most of the key actors have is that the current health system provides basic health services to a good portion of the population - certainly approaching 100% coverage - but that the intensity or sophistication of the system was lacking. This translates into requests for more specialized care, more equipment and newer facilities.

D. Priorities

Although there are no written priorities, the one area that was repeated several times was better nutrition for school age children. Secondly, the problems of sanitation - sewerage systems, garbage, disposal, pest control, etc

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Gulshard	P.S. for Nevins Affairs	10/14/77	<p>Problems: Serious infestation of rats. Potential is present for serious health problems, but since there has been no problem so far, nothing has been done. All the ingredients are present for disease spread.</p> <p>Need abattoir for P.H. reasons, i.e. fly control and meat inspection.</p> <p>Water - there is enough supply but the problem is distribution and purification. Pipes are seriously corroded. No treatment. Thinks may be cause of gastro-interitis trouble.</p> <p>Not happy with sanitation system. The four/ ^{Health Inspectors} are overburdened. All except Senior H.I. have no transportation and must use public transportation. Cannot keep up with sanitation problems. No decent garbage truck.</p>

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Name	Position	Date of Contact	Comments
Mr. Claxton (cont'd.)			<p>Feels he can handle recurring cost if capital costs are covered.</p> <ul style="list-style-type: none"> 3) trained personnel for P.M. <ul style="list-style-type: none"> a) HIs b) CHAS for visitation c) District midwives, feels hospital shouldn't be burdened with so many deliveries 4) Transport <ul style="list-style-type: none"> - need more vehicles for public health activities with M.D. - ambulance sent only / (and sometimes R.N.) permission - problem with maintenance of equipment - only have apprentice now - hard to keep spares because of lack of funds - says no dangerous drugs sold over-the-counter now - since V.D. has declined.

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Name	Position	Date of Contact	Comments
Mr. Rollins (cont'd.)			<p>Dump and burn about 2½ miles from Charlestown.</p> <ul style="list-style-type: none"> - Need containers and dust bins - Need compressor garbage truck - Maintenance of truck and equipment a problem especially since the government took over maintenance shop.
Mr. Claxton	H.A. for Alexandria Hospital	10/14/77	<p>He is the first non M.D. H.A. He has expanded duties and is also the senior dispenser. Since 1/77 the H.A. goes directly to the P.S. for Ministry Affairs instead of CMO. The P.S. for N.A. then contact the P.S. of MollESA by passing the CMO. Thinks this is good as it eliminates several steps and increases response.</p> <p><u>Problems & Priorities</u></p> <ol style="list-style-type: none"> 1) mortuary and cadaver freezer 2) trained staff; xray technician, dietician, physio-therapist

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Name	Position	Date of Contact	Comments
Mr. Rollins (cont'd.)			<p>Shortage of water causing lock offs. Need more storage tanks to catch run off during rainy season.</p> <p>Estimated water house connections in capitol 60%, 30% in rural areas. The furthest one has to go for water 300 yds. (at Brown's Hill). Salinity problems on northern side of island during drought. Pipes in system are badly corroded from 4" bore to 1½" bore.</p> <p><u>Food inspection</u> - inspect all food handling establishments about once a year. It is a physical inspection.</p> <p><u>Refuse disposal</u> - 1 scavenging truck for whole island. Need modern garbage truck.</p> <ul style="list-style-type: none"> - Pick-up is regular in Charlestown (house-to-house) - in countryside, every 2 weeks, usually just bottles and tins.

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Name	Position	Date of Contact	Comments
Miss Nishett (cont'd.)			<p><u>Needs</u> - food program in schools and clinics needed the most. Supplies of nutritional requirements limited due to cost. Need more: tonics, vitamins, food and cod liver oil (the government used to give 25 gallons and when she asked for more, they responded by cutting it back to 2 gallons, saying that the amount should be sufficient.</p>
Mr. Rollins	Sr. H.I.	10/12/77	<p>Two main water sources, wells and upland springs. They are mixed but no treatment. Testing water, until 3 years ago, but lab troubles stopped that. The water is heavy (high sulfur content). Says gastro-enteritis problem is due to flies, not water.</p> <p>Problem with latrines. Soil too rocky to dig and pit latrines are the most common toilets. So defecation on surface is common where soil is hard.</p>

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Name	Position	Date of Contact	Comments
Miss Nisnett (cont'd.)			<p>get it out of own pocket (mentioned need for supplemental feeding again).</p> <p>F.P. has 3 clinics; 1/Charlestown, 1 at Gingerland clinic and 1 at Combermeir. Target population/ the youth because of high rate of teenage pregnancies and/low birth weights. Not working for various reasons. 1) fatalism-"We don't have anything to plan for" 2) If one person has trouble with the boys, gossip spreads quickly 3) stigma attached (cultural).</p> <p>Funding is from Program started in 1973. /IPPF funding which passes down to National FPA. Registered nurses are not paid any more for FP activities as it is integrated into health services.</p> <p>There / 350 active users as of October, 1977.</p> <p>Referral systems between hospital and clinic are good, especially for gastro-enteritis and malnutrition.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Miss Nishett (cont'd.)			<p><u>Problems</u> - Attendance has dropped off at infant clinics since UNICEF dropped supplementary feeding program two years ago. Malnutrition is on the increase (mainly 1^o and 2^o with a few 3^o). Due to inflation and high cost of protein, i.e., milk, meat, fish. Gastro-enteritis is high right now but thinks its the same as this time last year (seasonal).</p> <p>[Prenatal coverage is about 80-85%]</p> <p>Breastfeeding is a problem. Due to advertising and migration ^{British Virgin Islands} to the U.K./where habits were acquired of those islanders.</p> <p>There is 1 clinic without a PHN right now. The nurses do home ^{and average visits} visiting/ about 3-4/pcr week. Believe that it should not be rushed but just doesn't have the staff and time to do a ^{achieve} good job and/good coverage. Says there is a need for CHAs.</p> <p>The RNs are frustrated because there is nowhere to send someone to get food for malnourished babies.</p>

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Name	Position	Date of Contact	Comments
Drs. Claxton & Platzer (cont'd.)			<p>Feels health is subordinate to the other sectors and salaries reflect it. Dr. Claxton feels P.H. is important but that demand of people is for hospital care. Feels breast-feeding in Nevis is not a problem.</p>
Miss Nishett	Chief P.H.N.	10/14/77	<p>Duties of Clinics - <u>comprehensive community nursing</u>, i.e., child welfare (0-5 yrs.), prenatal clinics, some midwifery (there is a trend to hospital-based delivery), school health, minor treatment (dressings, chronic ulcers, diabetics), and first aid, assistance at MD clinics, home visiting, assisting at dental clinic (preparation, mixing fillings, etc). Clerical and records for all the above. Send monthly and quarterly reports. Immunizations including DPT, polio, pertussis and smallpox. Measles not necessary because only sporadic. Had a mild case of whooping cough 5 days ago.</p>

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Name	Position	Date of Contact	Comments
Claxton & Platzer (cont'd.)			<p>more chronic care wards. The infirmary has only 26 beds and is for geriatrics. There are 64 beds in the hospital, occupancy was estimated by M.S.</p> <p>Nevis has same program (integrated with) as St. Kitts. Three to 5½ years for general nursing and 1 extra year for specialization i.e. midwife, maternity. Licensing is hospital exam and a counsel/exam for regional qualification. The hospital administrator, Dr. Claxton, is a trained dispenser (U.K.) and a Mr. Nisbett is training in Barbados. He will be licensed there.</p> <p>Emigration is not a bad problem. Usually lose RNs to marriage. Major problem with staffing is that St. Kitts pirate RNs from Nevis for their staff shortages.</p>

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Name	Position	Date of Contact	Comments
Mrs. Claxton & Platzer (contd)			<p>such cases. Doesn't feel that there is a significant problem in staffing clinics, i.e. never without staff but maybe understaffed. CHAs are not needed. The PIIN usually knows patients personally. (This statement was later contradicted by other sources).</p> <p>Feels F.P. a definite priority in view of frequent, repeated pregnancies. M.S. does tubal ligations free or at low cost. There are 3 N.Y. trained midwives in F.P. working in clinics. F.P. clinic meets V week. Feels this is a problem as people won't go to a scheduled clinic because of stigma. Need capacity to have unscheduled F.P. clinic or demand to avoid this.</p> <p>Feels emigration of last 10 years has caused agriculture and dairy farming to suffer so its partial cause of malnutrition. Need to reinstate supplemental feeding program.</p> <p>In the hospital, obstetrics is the most utilized, next medical and surgery about equally utilized. There is a need for</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Drs. Claxton & Platzner (cont'd.)			<p>birth weight. Thinks that malnutrition is not as bad in children in other areas because land ownership is allowed in Nevis and people grow more food so have greater protein/calorie intake.</p> <p>The diabetes is of the adult onset variety and is a milder form of the disease. Its related more to genetics than glucose intake. (insulin shortage)</p> <p>There are 6 clinics on the island with target population of 1000-3000 people and a maximum distance of 2 miles to travel for any person. One hospital and an infirmary serve the island, Each clinic is staffed by a PIW and a nurse midwife and is visited by an M.D. at least 1 week. Says that in some clinics (Gingerland) as many as 70-90 patients are seen in an afternoon but that he works till 7 or 8 at night in</p>

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Name	Position	Date of Contact	Comments
<p>Dr. Claxton</p> <p>Dr. Platzer</p>	<p>M.J. Superintendent</p> <p>volunteer expat internist at hospital</p>	<p>10/14/77</p> <p>"</p>	<p>Both mentioned supply and equipment troubles. Ordering of drugs once a year is a problem because 1) it takes so long to arrive, shelf life is shortened 2) when a particular drug runs out (insulin and antibiotics mentioned as e.g.). There is no mechanism for ordering more and must place personal order to U.S. The lab has equipment only because Scotland Yard donated it. Have maintenance troubles.</p> <p>Main health problem with children is G.I. disease. It's on the rise this year. Thinks it's due to increase in flies not sewage/ disposal problems. There is water shortage but doesn't think this is the cause. Main health problem of older people is hypertension/diabetes. (Scabies on decline)</p> <p>The g.i. disease leads to malnutrition, and problems in small children. This is compounded by teenage pregnancy and low</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Rawlins (cont'd.)			Feels cooperation with Public Health has been good. Throughout this interview, Mr. Rawlins was talking about St. Kitts almost exclusively. Nevis was obviously considered as a separate problem.

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Rawlins (cont'd.)			<p>on water flow.</p> <p>There are 4500 household connections. Rates for domestic use were 9¢/100 gallons to 5000 gallons, then 13¢ to 7000 gallons. Then 15¢ to 8000 gallons and over 8000, it's 18¢. A household connection costs \$EC65.00 to \$70.00 for installation. In Basseterre they are averaging 120 connections per year. Of the population, 60% have household connections, 40% standpipes.</p> <p>One of the main problems is to prevent salt water intrusion by maintaining fresh water levels. They test for salinity about once a month.</p> <p>Feels his staff is well-trained.</p> <p>Major problem is that pipes were laid a long time ago and need replacement which they are planning to do with CIDA.</p>

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Name	Position	Date of Contact	Comments
Ms. Manning (cont'd.)			<p>nurses. Once a month she appears on television with a nutrition discussion. Feels that malnutrition in children is on the increase. There's no supplementary feeding and mothers are not bringing their children to the clinics. Approximate 13% of all / ^{children} have low birth weights. In St. Kitts, most malnutrition occurs between the ages of 1 & 2, while on Nevis it is less than one year. Not too much of a problem with nutritional anemias in mothers. She feels that more educational equipment, training and increased staffing is needed.</p>
Mr. Rawlins	Chief, Water Dept. of Ministry of Public Works	10/14	<p>Responsible for construction, maintenance, repair and monitoring (in conjunction with Public Health Inspectors) of water supply system. In general, he seemed fairly satisfied with water system. Didn't feel that quantity of water is a problem on St. Kitts, although it did constitute a problem on Nevis. This</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Miss Phipps (cont'd.)			<p>Antenatal clinics have only about 60-70% coverage. There appears to be some demand for abortions, even though they are illegal.</p> <p>Scabies and other skin diseases are another problem. The health needs;</p> <ul style="list-style-type: none"> a) financing b) more staff c) training <p>Both of these nurses were extremely articulate and provided excellent insights into the nature and impact of various health problems.</p>
Sylvia Manning	Nutrition Unit Public Health	10/13/77	Is responsible for nutrition education and surveillance in the public health system. The nutrition education is focused in two areas; school education and nutrition seminars for

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Name	Position	Date of Contact	Comments
Mrs. Phipps (cont'd.)			<ul style="list-style-type: none"> - Gastro-enteritis may ensue because of lactose intolerance. - No community health aid program <p>Health is given a low priority within governmental health policy.</p> <p>Nurses are expected to make home visits at least 3 half days a week.</p> <p>F.P. education was given to school teachers; poorly prepared to handle it. No clinical activities since Sept, 1977.</p> <p>The number of patients with congenital syphilis has increased. Gonorrhoea is another problem. Presently can't trace contacts. There is a resistance to reporting cases.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Prof. Mills (cont'd.)			New social security program is causing many senior Bureaucrats to retire early. Minister's Womb to Tomb health coverage plan does not appear to be under serious consideration at this time.
Mrs. Delaney	Chief, Public Health Nursing	10/13	These two are responsible for the nursing section of public health, school education, school health, immunization, venereal disease control, T.B., diabetes, epidemiology and mental health. Their nurses staff 17 health centers on the two islands. They see the following major problems:
Mrs. Phipps	Supervisor, Public Health Nursing	"	<ul style="list-style-type: none"> - Teenage pregnancy; some people say it is a result of the family planning program. Social pressures cause the problem. Family breakdown may contribute. Legal sanctions exist against the fathers. - Breastfeeding is not fashionable

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Name	Position	Date of Contact	Comments
Professor Joseph Mills	Director of Planning Unit	10/13/77	<p>Mills is a Canadian, financed under the Commonwealth Fund for T.A. Mills considers the PS (Ribiero) to be the pillar of the Ministry. Delegations of authorities are weak throughout the government.</p> <p>Personal politics is an important factor in St. Kitts.</p> <p>This island is well-off for doctors and dentists, Sebastian, the SMO, is very influential. Government is not interested in sewerage. New homes are required to have an adequate sewage disposal system (septic tank or leeching bed). Construction requests are passed through the UNDP Physical Planning Project Team which has a veto power. Development Plan, when drafted, will tilt capital expenditures toward education and health. Each Ministry has considerable independence to negotiate for external assistance, however.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Messrs. Bryant, Woods & Balda ccl	(cont'd).		<p>Looking to the future, common services could be encouraged for specialized personnel and drug purchasing and testing.</p> <p>Minister stated that primary level of nurse training can be effectively provided at the local level.</p> <p>St. Kitts has very limited capacity for dealing with special health problems. Needed are space and psychiatric workers.</p> <p>The cost of regional referrals is a significant drain on the budget. In general, the Minister felt more priority must be given to societal rather than individual health problems.</p> <p>Comments: The Minister appears to be an idealist with socialistic leanings. As some of the problems mentioned are theoretically within his purview of influence, the discrepancy between theory and reality raises questions as to degree of real power he exercises.</p>

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OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Messrs. Bryant, Woods & Baldacci	(cont'd.)		<p>At the present time, private and public services are integrated. Children, the aged, indigents, etc. receive free physician care. All others pay.</p> <p>St. Kitts, due to its size, has the capacity to be innovative. Seeks a unified health system. Need guidance to create new system. Money is a problem but not the only one.</p> <p>Referred to request for Medex assistance.</p> <p>Also need management assistance to overcome bottlenecks and sluggish bureaucracy.</p> <p>The Minister cautioned against conceptualizing assistance on a group basis. Procedures for group activity were said to be in tatters, that 5 years would be required to achieve consensus. St. Kitts was said to cooperate well with St. Lucia, however.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Dr. L. Baldacci	Chief Medical Officer		<p>The Minister said his staff were hard workers and the nurse serve as half doctors (note: subsequent observation tended to contradict this latter statement).</p> <p>In Public Health, the principal problem was stated to be pest control.</p> <p>The government was said to have made a commitment that comprehensive health care would be a national responsibility. The Minister sees this as being achieved through a compulsory social security system which would provide full benefits. Financing of the system would be tri-partite - government employer and employee. All services by government doctors would be free. The patient would have the option of using private services to achieve additional benefits. In addition to improving health care, a further stimuli for the program is alleged physician exploitation of the population.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Miss Parris (cont'd.)			<p>Says there is emphasis on P.H. at the clinic level but that the shortage of district nurses precludes good public health.</p> <p>Personnel attrition (RNs) not a problem. Has lost only 2 RNs in several years; one to marriage, one left with family.</p>
Fitzgerald Bryant	Minister of Education, Health & Social Welfare	10/13/77	The Minister did virtually all of the talking. The health problems of the sub-region were said to be generally similar with the differences being emphasis and nature and intensity of response.
Maurice Woods	Principal Assistant Secretary		<p>Insufficient attention and budget given to preventive programs.</p> <p>Problems include nutrition (need education in this area) water (inadequate storage capacity) and sewerage system.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Miss Parris	Matron	10/14/77	<p>Problem - not having enough personnel to go into homes, i.e., for the aged and invalid. Would like to have a district nurse; one in each of the 6 districts to do this. Feels P.H.N. are too busy.</p> <p>Feels there is good communication between clinics and hospitals in referral cases. Patients carry a card with necessary information for follow-up.</p> <p>Says training is adequate. Each head Registered Nurse for the district has had P.H. training for 1-2 years in Jamaica.</p> <p>Projected needs based on allowances of personnel and attrition per category. Makes a yearly request based on this with reasons for need.</p> <p>Major health problems are diabetes/hypertension. Having a mild epidemic of gastro-enteritis. Thought cause was water but now feels it is flies.</p>

meeting the needs.

The system as it currently operates, places far less stress on primary health care than the Minister's statement would indicate.

We/ are inclined to agree, however, that the major needs of the health system might best be addressed by a comprehensive health care system stressing primary health care.

B. Is there enough information available to justify programming?

There is certainly good statistical information available regarding health status, facility/personnel utilization rates, etc. However, the perceptions of causes and solutions by the various actors vary widely, prompting the feeling that programming may prove difficult in certain areas unless a consensus can be reached.

V. Recommendations for A.I.D.

The team feels that, because of the ambivalence of the various actors as well as political differences as to mechanisms for meeting health needs, AID should be extremely cautious in any attempt to develop health programs on the islands.

Realizing that any choice for programming will have political overtones and ramifications, areas for consideration are as follows: 1) sewerage 2) public health laboratory (highly political), 3) nutrition interventions and 4) technical assistance in pest control.

With regard to the request from St. Kitts for the Medex program, the team does not believe the climate is propitious at this time for action on this matter.

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Family planning is not readily accepted in St. Kitts/Nevis as/in the other Islands. The reasons are essentially the same. (For discussion, see the same section , other islands). In St. Kitts, there are several further factors mentioned. Socioeconomic pressures force people to work abroad. They are not at home to apply social pressure to their children. There are even a substantial number of children who say they have a child to get even with their parents. In other cases they think having a child will get their parents off their backs.

K. Extrasectoral Impacts on Health

There was mention made by at least two key actors of the probable conflict between agricultural objectives and health status, in particular, nutrition. That is, under the agricultural program, the vast preponderance of cultivatable land is devoted to sugar cane production in order to equal the production level below which the refinery would need to be closed. This policy severely limits the amount of land available for food crop production and is said to directly contribute to extensive malnutrition.

IV. Evaluation of Actor's Perceptions vs. Situational Analysis

A. Do health policy, goals and priorities match known health needs?

There is no written policy on health, only verbal/^{policy}as stated to the team by the Minister. The future goal of a National Health System under a social security scheme is appropriate in so far as it rectifies the problem of unequal access to health care. There are major political obstacles to overcome before realization of this goal. Several factions, both political and geographical, have divergent views as to health needs and the means of

Island: St. Kitts-Nevis

able to the team to estimate the percent of family income spent on health care.

Nevis: When drugs run out or when equipment breaks down or is needed, the American physician orders and pays out of his own pocket or friends. U.S. will chip in and buy them. While the amount of expenditure is uncertain, it does not show up in the budget. For example, the lab in Alexandria was recently fully-equipped by Scotland Yard following their use of the facility in a murder case.

J. Antropological/Sociological Aspects

There is a decline in breastfeeding which is having serious consequences on infant nutrition when coupled with inadequate weaning foods and depressed economic conditions. This situation appears to be widespread in St. Kitts. In Nevis, the two physicians with whom I discussed this seemed to think it was a minor problem but they were contradicted by the nurses who deal with the cases at a community level. Various reasons as to the etiology of this situation were offered; chiefly cosmetic and economic. That is mothers that work during the day are unable to breastfeed. Furthermore low incomes induce mothers to prepare extremely dilute formulas. The PHN supervisor felt that emigration to the Virgin Islands is at the root of the problem. While there, women tend to pick up the habits of the people around them, in this case bottle feeding. The baby formula advertising industry has also been implicated in this regard with their attempts to portray bottle feeding as modern, carefree, sanitary, etc.

Another sociological trend is the increased reliance on hospital care. However, the ^{reason} / for this is not readily evident.

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Peace Corps Volunteers are assisting in the hospital laboratory and in organizing drug purchasing and control. UNFPA and IPPF are active in family planning. Canada is providing assistance, including capital assistance, to the Water Department.

There are no employer/employee contribution schemes at the present time. The Minister of Education and Health has proposed a comprehensive social security scheme which would provide free health care to everyone. It was not possible to judge the likelihood of adoption of this scheme by the government.

Budget: A detailed breakdown of capital and recurrent expenditures is available in the Budget Estimates. Capital expenditures for health in 1977 were minimal. Recurrent expenditures for health represent about 10% of the total recurrent budget (3,043,542 of ^{ECS} EC\$29,698,807). The breakdown by function is as follows:

	<u>Personnel</u>	<u>Other</u>
Health Department	654,264	468,040
France Hospital	792,062	433,360
Alexandria Hosp. (Nevis)	238,816	110,350
Pogson Hospital	51,821	31,710
Hansen Home	14,078	13,395
Infirmiry-Mental Wards	51,585	71,194

Budget data on the Water Authority are also to be found in the estimates. Total expenditures for 1977 are ^{ECS}427,077 of which ^{ECS}178,504 represents personnel costs.

Cost of Health Care: It is not possible on the basis of data made avail-

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to the airport. He then let it be known that he had drugs waiting at the airport that would save lives but that the government wouldn't allow them in. The government succumbed to the pressure.

Training and licensing - As far as could be determined there are no university-trained pharmacists in St. Kitts/Nevis. Most, if not all, are dispensers who received on-the-job training.

Nevis has a person training in Barbados due back in 1978.

Private pharmacists do prescribe dangerous drugs according to the Minister even though it is against the law. In Nevis, the Hospital Administrator, (a dispenser himself), believes no such practices exist. venereal diseases have become less of a problem and education/reduced the stigma attached to these diseases. The requests for the pharmacist to supply the necessary treatment have therefore declined.

I. Financing and Cost of Health Care

Financing mechanisms: The health system is financed by Public Revenues, donor contributions and user charges. The distinction between public and private medical practice is even less pronounced in St. Kitts than in other Leeward Islands visited. By law, physician care is available free to children, the aged and certain other categories of personnel. For all others, there is a fee for services whether received from a government doctor at a government clinic or on a private patient basis. Although some fees are standardized (eg. cost of beds at the hospital), others appear to be at the discretion of the doctor.

External assistance is provided by a variety of donors on a limited basis and primarily of a technical assistance nature. The U.K. is financing the costs of the Chief Medical Officer and of two doctors at the hospital. France

A PCV has recently arrived to aid in streamlining management procedures and to upgrade purchasing procedures. Purchasing is now once a year and the entire drug budget is expended. While this may inject some economics of scale, there are several problems. Also no records or bookwork are kept on procurement and distribution. Thus, there is no means for determining relative demand ^{for} / various drugs. In the middle of the year, a crucial drug may be gone and the budget is tied up in other drugs. This lack of recordkeeping also results in uncertainty as to shelf life.

Skyrocketing drug prices outrun the ability of the procurement people to keep abreast of the increases on a fixed budget. Often orders for a drug are placed with the instructions that if the amount of money is not adequate the quantity should be adjusted to the commensurate amount. results in the inability of pharmacies to keep a wide enough range of stock to fill the variety of prescriptions physicians order.

Mr. Strong noted that people die because the drug prescribed by an M.D. is out of stock and the pharmacist will not attempt to substitute a generic drug. The same is true if the drug is too expensive.

There is a need for research to determine the optimum air/land/sea transport mixture to achieve timely, inexpensive arrival of drugs.

Quality control - There are no laboratory procedures for determining the quality or efficiency of the drugs purchased.

There are regulations governing who may purchase drugs. These are weakly enforced and subject to political pressures. The example was given of a physician who ordered drugs he wanted which were illegal to import and had had them brought

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Lack of maintenance for various machines and equipment is universally acknowledged to be a problem/ ^{on Nevis} Water has not been tested for coliform levels for over 3 years. The ambulance has been out of commission for almost a year. Yet there is the feeling that more sophisticated equipment is the answer.

Maintenance of facilities appears to be adequate.

Quality of care/ ^{in Nevis} seems adequate if not downright good. There appeared to be a lot of concern on the part of the 2 physicians interviewed for the patients. They claimed that they would never base admittance or treatment on ability to pay even in their private practices.

H. Pharmaceutical System

Currently there is no national formulary although there is some work being done on this. The Minister feels that the absence of a formulary is a constraint to effective cooperation with the CARICOM bulk drug purchasing scheme.

Number and Distribution - There are 4 major government dispensaries including the one located in Nevis with a few minor ones located around the Islands. Private pharmacies do exist (3-4) and they place their own orders for drugs.

Production and Distribution - No drugs are produced in St. Kitts/Nevis. An adequate cold storage facility exists in BasseTerre (according to P.C.V., Mr. Strong) but apparently shipments arrive and may sit at the airport or or docks for days before notification of arrival.

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ance problem at France Hospital. The two-man maintenance crew have had no specialized equipment training, however. One is an electrician and the other has local training in refrigeration.

Statistics concerning facilities and distribution^{in Nevis} are available in the Health Dept. Annual Report... The only hospital (64 beds) is on the outskirts of Charlestown. Next to the hospital is an infirmary (26 beds) which has been converted into the geriatrics ward. Obstetrics is the most utilized service followed by medicine and surgery (about equal). Occupancy was estimated at 90-100%. However, on my tour of the hospital, many of the wards appeared to ^{have} below 50% occupancy.

There are six clinics in Nevis responding to the 6 districts with catchment areas of 1000-3000 persons. Maximum distance to travel to a clinic does not exceed 2 miles for anyone. According to the PHN supervisor, clinic utilization is waning, particularly the antenatal clinic sessions, because of a "trend" to hospital care. This was confirmed by the hospital administrator who feels that the hospital is becoming overburdened

Nevis

Generally, the/hospital appears adequate to the needs of the population. The lab, equipped by donations ^{from} Scotland Yard, appears capable of ^{and} doing most work required by the hospital/is even doing some analysis for which St. Kitts lacks capabilities. The x-ray machine is ancient, but functioning. However, safety precautions are minimal for exposure levels and the recently arrived PCV x-ray technician has indicated an unwillingness to work until radiation badges are acquired. There is a new lab full of components for a modern x-ray machine that has been lying idle for 2 years since no one knows how to assemble the components.

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that he may see as many as 70-90 patients in an afternoon there, but that in such cases, he worked till 7 or 8 at night.

G. Health Facilities and Equipment

Data covering this area is generally available, especially relative to institutional care. The main hospital is in BasseTerre./ There is (St. Kitts) also a hospital on Nevis and a cottage hospital at Sandy Point. There are 15 health center/clinics strategically located throughout the islands. Only a few communities lack access to clinics. The only laboratories are in the hospital. Capacity and scope are limited. There is one government dental clinic located at the New Town Health Center. The hospitals appear adequate to demonstrated needs. The clinics structurally are in varying degrees adequate for the services they now perform. Except during the twice weekly visits of the district medical officer, the district nurses are limited to providing injections to diabetics and simple advice and consultation. They have no first aid capacity and are not allowed to diagnose and prescribe.

The J.N. France hospital in BasseTerre has 164 beds. Alexandria Hospital on Nevis has 64 beds. France is a general hospital with equipment appropriate to its needs. It has only one operating theater which was said to be overutilized.

Data on utilization rates and quality of care is available for the France Hospital in its 1976 Annual Report.

Maintenance of structures appeared reasonably adequate. Spare parts supply, including funds to buy spare parts, was said to be the principal mainten-

Charlestown, with one also located at Sandy Point. The District Health nurses are expected to reside in their districts and generally do so.

All key staff, including administrative personnel, have received training abroad. No training plan as such is known to exist. Much of the training is financed by PAHO. To minimize the risk of emigration, training abroad is to be done in stages. Licensure is by examination.

Nurses are trained locally, both in St. Kitts and Nevis. The basic course is of three-year duration with midwifery requiring one additional year. The latter course is given only in St. Kitts. Entry to the School of Nursing at St. Kitts is set at 30 students per year. Enrollment is generally below this level. This level would appear, however, to be in excess of job opportunities.

Nevis - Projected needs for sub-physicians/^{personnel}are based on allowances per category of personnel and vacancies (as they occur) and requests are made on a yearly basis with justifications attached. There are 3 New York trained F.P. nurse-midwives stationed at 3 of the 6 clinics.

While it seems that staffing is adequate (i.e. shortages but never without an absolute lack of personnel) there appears to be a need for more outreach personnel (like CHAs)* to handle home visiting (geriatrics, diabetics, bed-ridden). There is some feeling that Nevis nurses are pirated to fulfill St. Kitts' needs (not documented).

There are three MDs in Nevis giving roughly a 1/4000 population ratio.

A practicing R.N. from the Gingerland clinics recently retired and has yet to be replaced. Each of the clinics are visited ^{once}/a week by one of the physicians. The Gingerland clinic is the largest and the M.S. said

* Community Health Aides.

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There are also public facilities scattered throughout the island. Waste water is disposed of via open sewers running down the streets to the sea. Only the France hospital has a sewage disposal system.

Refuse disposal - This area is a responsibility of the Chief Public Health Inspector. Several garbage trucks are maintained in Basse Terre for refuse collection purposes and two cover the southern end of the island. Disposal is at a public dump.

Food sanitation is also the responsibility of the Public Health Inspectors. Actual inspection is spotty.

Nevis - In waste water disposal, the same as St. Kitts. The main form of excreta disposal is through pit latrines. The ground is extremely hard though in certain areas and surface defecation is common there.

Refuse - There is one scavenging truck for the entire island. House-to-house pick-up is regular in Charlestown (weekly) and the countryside is covered every 1/2 weeks. This is usually for bottles and cans. Garbage is dumped and burned about 2.5 miles from Charlestown.

Food inspection - claims physical inspection once a year for all food handling establishments. Highly doubtful - 4 inspectors, 3 with no transportation.

F. Manpower

Data on quantity of personnel are readily available from the Budget Estimates and other sources. Over a third of the 15 physicians are from outside the region. The physicians are concentrated in Basse Terre and

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these outflow points is unknown except as a group, i.e. total production minus metered usage. The user also pays for connections as well as a meter rental fee. About 120 user connections per year are made in St. Kitts.

Now that supply is being increased, the principal problems of the system are line deterioration and limited storage capacity. The system was described as functional with significant maintenance and replacement requirements.

In Nevis, water shortages occur during droughts. This results in salinity problems on the northern side of the island. The water is heavy (high sulfur content) and has seriously corroded the pipes. Bore has been reduced from 4" to 1½ in many areas. Wells and upland springs are the 2 main sources. These are mixed but no treatment is done. Water was tested until 3 years ago but lab breakdown stopped it.

The Health Inspector estimated 60% house connections in Charlestown, 30% in the rest of / ^{Nevis} island with no one having to go more than 300 yards for a standpipe connection.

Nevis Affairs

The Permanent Secretary for / felt that water supply (i.e. resources) is not a problem but that the distribution system is. Also mentioned water as being possible reason for gastro-intestinal problems. The Health Inspector disagreed with this assessment independently and said there is a need for creating more catchment areas and storage tanks to capture run off.

Excreta and waste water disposal - there is no existing sewerage system as such. New construction plans must provide for adequate excreta disposal, usually by a leeching bed process. Better class older homes also use this process. Slum houses and rural dwellings may or may not have latrines.

Island: St. Kitts-Nevis

E. Environmental Sanitation

Water supply - the Water Department operates as a division of the Ministry of Public Works rather than as an independent authority. The manager of the Water Department has a MS degree from the University of Houston. All section chiefs have also received training abroad and academically at least, appeared appropriately trained for the duties they perform.

Traditionally the water supply for St. Kitts has been 5 mountain spring-fed rivers which provide about 1.5 million gallons per day. This flow is inadequate to meet the demand, especially during the drought months when flow is reduced. Ground water is now being tapped to supplement this source. With CIDA's assistance, four wells have been drilled of which two are now operational and produce 300 and 250 gallons per minute respectively. When all four are in production, they will produce 1600 gallons per minute. Since 1975 when the first well was brought in, supply has met effective demand.

Supply in Nevis is less adequate. The surface sources tend to dry up during drought months. There are also 4 drilled wells in Nevis but they produce only 60 gallons per minute each. Rain water catchment is a significant source of water on Nevis and is being encouraged in conjunction with new construction on St. Kitts.

There are only some 4500 metered connections in the system. The balance of the population is served by standpipes and public baths. User fees range from ^{ECS} 90 per 1000 gallons for the first 5000 gallons for domestic connections to ^{ECS} 150/1000 gallons for non-domestic users. Government buildings, standpipes, etc. are unmetered and information on usage by

MCH, F.P. and hypertension and diabetes screening and follow-up in the health centers.

Theoretically the target population is the entire population of St. Kitts-Nevis, but because of the physician orientation of the system, health care is frequently neither available nor accessible.

scattered around the island does provide periodic care but not necessarily care on demand. Only doctors may refer patients to the hospital, except in emergencies.

Utilization data for the health centers was not readily available. Hospital data, on the other hand, were found complete.

Cost analyses have not been done by utilization patterns. Quality of care seemed to be a ^{more} factor of ability to pay than need or a standard norm.

Articulated governmental priorities do not now match actual services provided, nor expenditures.

Specific programs include antenatal clinics, child welfare clinics, hypertension and diabetes screening and follow-up, nutrition education, family planning, sanitation (food control, pest control, refuse disposal, etc.) and fairly sophisticated hospital care.

Food supplementation ceased three years ago.

In summary, comprehensive data on services provided was only made available for the hospital. The public health system was a little reticent to provide good, timely data, at least in documented form.

There is no established unit or forum for health planning. A 3-year development plan for the state is in the early stages of formulation but has not yet addressed the health sector. Various key actors had ideas on the directions in which they would hope the health system would evolve but there was ^{no} written consensus among the actors nor endorsement by the government.

The Health Department has primary responsibility for consolidating and maintaining health information. It has no capacity for policing reporting; essentially it must rely on cajoling and persuading the supplying sources. The amount of effort devoted to information generation and reporting appears to be somewhat greater than in the other Leeward Islands visited. The record system at the France hospital appears quite complete and serviceable and various periodic reports are produced. The Annual Report of the Health Department is a voluminous document by local standards but requires almost one year beyond the reporting date to compile and publish.

No written health policy was called to the attention of the team. Thus, verification of sector objectives obtained through interviews could not be confirmed by this means.

D. Health Services

Information on services was provided almost exclusively through interviews. By law, the principal providers of health services are physicians. The public system simply feeds patients into the private system. Preventive health services, few as they are, are provided by the public health system through their Public Health Inspectors and through their clinic activities -

C. Administration and Planning

Administrative responsibility for health falls within the portfolio of the Minister for Education, Health and Social Welfare. At the Ministerial level, he is assisted by the Permanent Secretary and two assistant secretaries, of which the Principal Assistant Secretary deals with health. Jurisdiction of the Ministry includes both St. Kitts and Nevis. However, Nevis now has its own council and a Permanent Secretary for Nevis, reporting directly to the Prime Minister with whom all matters dealing with Nevis must be coordinated.

Below the level of the Ministry, administrative responsibility is diffuse. The Health Department has responsibility for the operation of the clinics and for Public Health functions. Each of the three hospitals are administered independently by a Medical superintendent. Dr. Sebastian, the M.S.* of the France Hospital, is the most influential of the M.S.'s, with influence not limited to the health sector. Again, while the Health Department has responsibilities and operates programs on both islands, the CMD (who is provided by the British Government) is refusing to travel to Nevis until the political aspects of the situation in Nevis are clarified.

Supply and maintenance functions are decentralized, i.e. each institution and the Health Department are independently responsible for supply and maintenance within their individual spheres of influences. A consolidated drug procurement system, however, is now being established. Control over ambulances on St. Kitts is also being removed from the France Hospital and placed with the police.

M.S. = medical superintendent

B. Health Status Indicators

The Health Department's Annual Report, 1973-75 and the 1976 Annual Report of the Joseph France Hospital provide a wealth of health status indicators. As discussed, the accuracy of any of these data must be questioned, since reporting is haphazard at best. Only births and deaths are considered to be valid.

Mortality figures are broken down by age and cause. Infant mortality in 1975 was reported as 42.7/1000 livebirths and maternal mortality as 1.8 per thousand live births. Caution must be exercised, however, because of the small size of the universe, a small change in the numerator can indicate gross changes in the rate. Major causes of death are listed as cerebro-vascular diseases, malignant neoplasms, heart diseases, diseases of respiratory system, and hypertensive diseases - all diseases of developed countries.

Because the Public Health area of the health system has a nutrition unit, valuable information of nutritional status was available. Particularly interesting is the fall in the percentage of children with second and third degree malnutrition while the UNICEF food supplementation program was in effect. The rate rose from 4% in 1974 to 10% in 1975 after the program was terminated.

Although specific data on hospitalization by disease category was not made available, comprehensive statistics by hospital ward were available - thus some disaggregation was available, making analyses possible.

Overall, the quantity and quality of raw health data are good. However, the disquieting fact is that these indicators point to significant health

III. Data Availability

A. Demographic Characteristics of Population

Although their reliability could not be confirmed and they are believed to be of varying quality. The principal sources are the Health Department Annual Report and the Statistical Digest. The Annual Report for 1976 is only now in process of completion. Thus, latest data available is for 1975. Not included in these sources are internal migration and ethnic composition. As any point on the island is within one half hour's drive from any other, and since sugar is the main industry and the total population has been basically stable, it does not appear that internal migration is a significant demographic variable. The population is essentially Negroid with varying degrees of Mezoid. Geographic breakdown of the population by parish is available in the Digest. Density calculations based on this data, would be deceptive, however, since the center of this small island is mountainous and the population is concentrated on the Coast along the one main road that circles the island.

Key data:

Total population is	48,000	(36,100-St. Kitts)
Under 5	7,060	
5 - 14	16,310	
Women, 15 - 44	7,350	
Crude /Birth rate	22.9	(1975)
Crude /Death rate	8.9	(1975)
% - male	46.9	

- (2) UNFPA is providing commodity and other support to the Health Department's Family Planning program.
- (3) The U.K. is providing personnel to fill key health positions - CMO, surgeon and internists.
- (4) Peace Corps has volunteers assigned to the hospital lab and to organize central drug purchasing.
- (5) PAHO is providing various training grants.

B. P.V.O.s

- (1) IPPF operates a private sector F.P. program in addition to, but coordinated with the government's program.
- (2) Project Hope is providing some support for the recently-established dental program.
- (3) AMDOC has arranged for the short-term (6 months) services of a physician who is functioning as the Medical Officer of Health.

C. Private Indigenous Sector

As a distinct sector, this does not exist in St. Kitts. Rather government physician services and private physician practice are fused both in time and scope. In general, physician care of the young, aged and indigent is free; all others pay whether the services are performed at governmental facilities or elsewhere. One is left with the impression in St. Kitts that the ability to pay tends to influence the quality of care received.

There is reportedly one private dentist in St. Kitts. Additionally, private pharmacists do prescribe and dispense, although there are laws against their doing so.

were viewed as general constraints. Other constraints perceived by key actors included the lack of a national formulary, money and sluggish bureaucracy, numbers and variety of personnel, size and quality of clinics, lack of suitable facilities to meet special needs (mental health), the failure of physicians to provide reports and the national agricultural program which assigns priority to sugar cane rather than food.

F. Areas where A.I.D. assistance can be most useful

The areas where U.S. assistance would be most useful were indicated by key actors to be the following:

- 1) Water supply and distribution (Note: CIDA is providing capital assistance to St. Kitts in this area)
- 2) Sanitation, sewage and refuse disposal
- 3) T.A. in conceptualizing and designing new health system
- 4) Medex (physician extenders)
- 5) Public Health Laboratory
- 6) Training in various areas :
- 7) Supplemental feeding programs

It was clear that U.S. assistance toward meeting any of the problems or removing any of the constraints mentioned in Sections I (B or E) above would be welcomed.

II. Non-Governmental Activities

A. Other Donors

- (1) CIDA is providing capital assistance for the expansion of water supply on both St. Kitts and Nevis.

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reaching only a portion of the population. The physician dominated nature of the system is viewed as self-limiting. The access to and quality of care appears to be related to the ability to pay. On Nevis, the scope of the system appears to be somewhat broader than that on St. Kitts.

Intensity: This is varied. The hospitals tend to provide a rather full range of services, including regional referral. The Medical Department (Public Health) is limited in its ability to provide in-depth services. Follow-up appears better in Nevis.

D. Priorities

First priority is assigned by the Minister is to the creation of a new health system which would emphasize primary and preventive health care. "Medex" and nurse practitioners would play key roles in this system.

Other priorities cited during interviews included water and sewerage, Public Health Laboratory, middle-level personnel and training, a central drug purchasing system and pest control.

On Nevis, first priority was assigned to a mortuary (which was viewed as a necessity for any independent state). Other priorities included staff training, transport (ambulance, vehicles for health workers and refuse trucks), an abattoir, pest eradication, water distribution and family planning.

E. Constraints to Reaching Goals and Priorities

Physician dominance of system, its fragmentation and political intrigue

I. Perceptions of Key Actors

A. Policy Goals

As indicated by the Minister, the government has made a political commitment to move as rapidly as possible to establish a comprehensive health care system which will provide coverage to the total population. Through a compulsory social security program which will emphasize preventive health care and those health problems which are societal, rather than individual in nature. Water and sewerage are viewed as pillars of any adequate health program. Sub-goals are to overcome physician exploitation of the population and to establish a unified health administration.

B. Problem Areas (Their evaluation of health situation)

The following are the problem areas most frequently mentioned by key actors: nutrition (including early weaning and gastro-intestinal problems linked to malnutrition), water supply and water system maintenances, sanitation and sewage, pest control, venereal disease, physician exploitation, management and fragmentation of system, drug supply and mental health. In Nevis hypertension and diabetes, and teenage pregnancies and low birth weight were also mentioned. Rats and flies are the two problem pests on Nevis.

C. Nature, Scope, Intensity of Current System

The nature of the current system is that of the physician-based British model which emphasizes a division between curative and preventive health care. In St. Kitts, the distinction is even more pronounced than in other Leeward Islands visited.

Scope: There was fairly general consensus that the current system is

H. Finner Institute	
27 Personnel	83,790
Other	78,790
	<u>162,740</u>
Other Health Related	
Min. Education and Culture	
UJI Hospital	184,037
Police Foner	
Drugs	20,000
Barbuda Affairs	
1 Nurse	3,744
1 Senior Dispenser	7,728
1 Health Inspector	2,340
Drugs	10,000
Sanitation	5,000
Government Chemist Lab (Min. Ag.)	
6 Personnel	53,381
Other	51,500
Vet and Animal Hospital	
11 Personnel	79,243
Other	191,350

Other	75,438
<hr/>	
Total	1,110,915
Food and Catering	300,000
Drugs	150,000
Clothing and Bedding	50,000
Sanitary Service	30,000
X-ray films	35,000
Oxygen	15,000
Allowances to Nurses	180,000
Maintenance Tools and Maintenance	43,000
Other	161,970
	<hr/>
	964,970
Other	14,275
Total Hospital	2,090,160
F. Mental Hospital	
69 Personnel	337,169
Other	92,374
	<hr/>
	330,243
G. Leper Hospitals	
10 Personnel	33,058
Other	36,515
	<hr/>
	69,573

4 Clerical Assts.	11,010
2 Senior Dispensers	15,456
2 Dispensers	9,757
2 Radiographer	14,283
1 Assistant X-ray Technician	4,446
1 Dark Room Technician	2,496
1 Senior Lab Technician	9,677
4 Lab Technicians	23,118
3 Lab Assistants	7,900
1 Orthopedic Technician	4,692
1 Dietician	10 ⁰⁰
1 Pharmaceutical Assistant	2,340
7 Seamstress	8,353
4 Telephone Operators	11,969
46 Servants	70,382
1 Maintenance Mechanic	9,677
1 Chief Petty Officer	4,349
1 Sewage Plant Operator	4,212
1 Petty Officer I	3,978
5 Petty Officers II	14,311
3 Petty Officers III	6,342
1 Male Cook	3,979
1 Assistant Cook	2,496
1 Laundry Foreman	3,120
1 Supervisor of Orderlies	3,120
16 Orderlies	43,199
— Fees to Surgery, Phys. and Consultants.	40,000

E. Holberton Hospital	
1 Hospital Administrator	10*
1 Deputy Hospital Administrator	9,844
2 Surgeon Specialist	26,612
1 Consultant Obgyn	13,306
2 Physician	26,512
1 Hospital Medical Officer	12,768
5 Medical Officers	63,840
2 House Officers	25,536
2 Anaesthetist	25,536
1 Nursing Supervisor (Matron)	9,677
1 Principal Tutor	8,871
1 Nursing Sister (Asst. Mat.)	8,468
1 Sister Tutor	7,527
2 Departmental Sister	14,784
1 Physio-Therapist	6,720
1 House Keeper	6,555
12 Ward Sister	77,701
1 Home Sister	6,555
53 Nurses	232,374
31 Ward Attendants (Nurses Assistants)	83,863
1 Hospital Steward	3,271
1 Statistical Clerk	5,520
1 Senior Clerk	5,520
1 Collection Officer	4,692
2 Jr. Clerks	7,254

*Usually signifies salary paid by British assistance.
(cont)

D. Central Board of Health	
1 Chief Health Inspector	ECS10,618
1 Insect Pest Control	7,728
1 Field Technician	7,728
2 Senior Public Health Inspectors	15,456
2 Port Health Inspectors	13,110
1 Abattoir Inspector	7,728
1 Meat and Food Inspector	7,728
1 Building Inspector	6,210
1 Store Keeper	5,405
1 Market Supervisor	4,446
1 Carpenter	4,446
20 Public Health Inspectors	71,097
1 Scavenging Supervisor	4,876
1 Time Keeper	3,978
6 Foreman Privy System	20,748
2 Petty Officers II	6,240
10 Petty Officers III	21,422
1 Female Street Supervisor	2,496
Other	62,000
<u>34</u>	<u>284,460</u>
Cleaning Streets and Sanitation	800,000
Aedes Eradication Program	100,000
Other	223,700
Other	1,127,700
	3,300
Total Central Board	ECS1,411,360

c. Medical General

1 Chief Medical Officer	EC\$14,918
1 Assistant Secretary	10,080
1 Statistical Officer	7,056
1 Executive Officer	7,056
1 Senior Clerk	10,097
1 Jr. Statistical Clerk	3,744
3 Jr. Clerk	11,311
1 Medical Officer Institution	11,693
1 Pharmacist	11,693
6 District Medical Officers	69,979
2 Medical Officers	23,386
1 Dental Surgeon	33,690
1 Supc. Public Health Nurse	3,371
1 Assistant Support Health Nurse	8,468
2 Senior Dispenser	15,428
4 Dispenser	17,346
10 Public Health Nurses	62,861
4 Clinic Nurses	19,158
28 District Nurse/Midwives	127,360
1 Petty Officer Class III	1,638
Other	29,445

74

EC\$505,279

Drugs, Vaccine etc	100,000
MCM	15,000
Supplies Dental Clinic	15,000
Uniforms for Petty Officers	20,000
Other	106,166
	<u>256,166</u>
Calculation and Typewriters	3,150
Total Medical	<u>764,595</u>

90

Antigua

Title of Document: Antigua Estimates (Recurrent) 1976

Source: Peace Corps

Date: March, 1976

Contents: Budget document

Revenue	\$27,022,050EC
Expenditure	36,182,110
Balance	9,160,060

Ministry of Home Affairs and Labour

Page 2.

Island: _____

How Collected and Utilized

Evaluation/Comments (Standardization of Data)

Island: Antigua

DATA AVAILABILITY

Title of Document/Information

Antigua Estimates (Recurrent) 1976

Source

Government of Antigua

Date

March 1976

Contents (See Outline)

Budget document

Revenue \$27,022,050EC

Expend 36,182,110

Balance - 9,160,060

Ministry of Home Affairs and Labour

(Continued on Next Pages)

Continued: Island Data Checklist

Contents

4. Improve quality of Medical Administration by:
 - a) Locating hospital administration staff in hospital
 - b) form a statistical unit to prepare and monitor health budget thus providing central control.
 - c) Involve CMO in preparation of health budget

Continued: Island Data Checklist

Contents

Orthopedic Services

Intensive Care Unit

Peace Corps notes on Priorities for Health as Stated by Dr. A. Boyd CMO Cir. 2/777

1. Increase qualitatively and quantitatively child care by:
 - a) Immunizing all children
 - b) Raise standard of antenatal care through provision more doctors to supervise care
 - c) Open post natal clinics in Holberton Hospital and the 40 clinics
 - d) Reduce present infant mortality rate of 25/m for hospital births.
2. Expand Range of Medical and Specialist services to produce comprehensive hospital facility.
 - a) Secure Ophthalmologist
 - b) Secure Orthopedic surgeon
 - c) Expand psychiatric service
 - d) Equipment and staff an intensive care unit
 - e) Upgrade dental care
 - f) Establish an alcohol abuse program
 - g) Upgrade Radiological services
 - h) Establish a Pathology Department
3. Improve Hospital and Clinic support services by:
 - a) Securing hospital equipment maintenance management
 - b) Upgrade record keeping system

Island: Antigua

DATA AVAILABILITY

Title of Document/Information

Island Data Checklist

Source

Peace Corps

Date

N/A

Contents (See Outline)

Major Health Problems

Influenza

Pneumonia

Veneral

Gastro Enteritis

of physicians 28

of nurses 40

of hospitals 1 beds 190

of clinics 6

Government stated priorities

Anti-natal Services

Pathological Services

Continued - Canadian Development Cooperation with the Commonwealth Caribbean
Chapter IV (F) - Antigua

Contents

2.3.2 An apparent over-staffing of the water department has aggravated an already difficult operating overhead problem for the utilities authority. "It is recommended that, given the existing level of services available . . . no further emphasis be given to external assistance in this sub-sector. Further expansion will only aggravate existing financial inefficiencies." pg. 35.

"Given the existing budgetary problem and their continued existence in the foreseeable future, Antigua is not in a position to direct scarce financial resources to the advancement of its social services sub-sector." pg. 36.
Common Services are a possible area for achieving economies of scale.

Island: Antigua

How Collected and Utilized

Evaluation/Comments (Standardization of Data)

Island: Antigua

DATA AVAILABILITY

Title of Document/Information

Canadian Development Cooperation with the Commonwealth Caribbean
Chapter IV (F) - Antigua

Source

CIDA/Barbados

Date

October 1976

Contents (See Outline)

Population 1974 70,900

Population density 1975 417.1 per mi²

Antigua 645.8

Barbuda 18.5

Unemployment 40%

PCI 480 1973

Literacy 93%

Negative domestic and government savings and foreign exchange deficits

Water availability as major problem for livestock expansion.

(Continued on Next Page)

Island: _____

How Collected and Utilized

Evaluation/Comments (Standardization of Data)

Island: Antigua

DATA AVAILABILITY

Title of Document/Information

Budget Speech 1977

Source

Ministry of Finance

Date

February 17, 1977

Contents (See Outline)

Summary budget data, recurrent and capital. Some indication of Government priorities and policies. Relative to Health:

- 1977 objectives: To provide the citizen of the state with readily available and efficient social services including health and dental care, sanitation and education.
- (Home Affairs) is continuing its Crash Program to boost employment of a less technical nature .. objective steps have been taken to recruit a greater number of specialists to the hospital and to up grade certain posts ..

Island: Antigua

How Collected and Utilized

Data are manipulations of 1970 census based on reconciliations of census with birth registration records, etc.

Evaluation/Comments (Standardization of Data)

Method for projecting future population growth is of questionable validity.

Island: Antigua

DATA AVAILABILITY

Title of Document/Information

Town and Country Planning in Antigua

Source

Planning Department, Ministry of Economic Development (UNDP Physical Planning Project).

Date

March 1976

Contents (See Outline)

Migration page 17/18

Population, birth, Death and Fertility Rates, Page 19.

ANTIGUA

Listing of Documents, Forms, etc.

1. Annual Medical and Health Report for the year 1973.
Ministry of Education, Health and Culture.
2. State of Antigua Budget Speech 1977
3. Inventory of Hospital and Medical Supplies (Dow Hill).
Ministry of Home Affairs and Labour.
4. Town and Country Planning in Antigua
(UNDP Physician Planning Project).
5. Statistical Yearbook 1976
Ministry of Finance.
6. Antigua Development Estimates 1977
Ministry of Finance.
7. Weekly Report of Communicable Diseases, July 9, 1977.
8. Statutory Rules and Orders 1975, No. 13
Holberton Hospital Fees
9. Organization Chart - Central Board of Health 1976.
10. Antigua Estimates (Recurrent) 1976.

ANTIGUA

Meeting with Minister Freeland, P.S. Henry, Carro A. Boyd and Administrator O'Maede 10/4.

- A. Minister of Home Affairs Perceived needs
 - 1. Material
 - Mortuary, generator for nutocular, optomological equipment, dental equipment.
 - 2. Training
 - 3. Technical Advisor and Specialits
 - Nursing very well covered
- B. CMRH Priorities as Those of PAHO as statement of Government.
- C. Dr. Boyd Problems in Health
 - 1. Nutrition: insufficient milk; WFP assistance
 - 2. Dental: Fluridation Program
 - 3. Eye Testing and Prescription Fitting
 - 4. Immunizations
 - 5. Outpatient care (Problem: inadequate communication between institution and community health)
 - 6. Gastro-enteritis (relate back to nutrition)
- D. PAHO Management TA
 - Supplies; maintenance (Rhuls), Finance, Personnel; and overall administration.
- E. People said to be physician conscious. 25 clinical ooctors available (13 vacancines) of which 10 from outside CARICOM. 2 doctors to graduate from UWI in December and 2 in June.

Form 1

ISLAND: Antigua

5,

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Josephine	Medical Records	10/5	pathology lab. Records system in hospital are inadequate Lack of staff and space. Antiguans are hypochondriacs. Nurses need to be trained for out-patient follow-up.

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
r. Simon (Williams & Bird)	General Manager		the construction of such a treatment plan. Also a need for experienced well-drillers. 25% of PUA's budget is devoted to water and sanitation. There is no formal coordinating mechanisms with Ministry of Home Affairs. Hoberton Hospital may need up-dating of their sewage disposal plant.
alt Winch	Associate-PC Director for Leewards	10/5	Winch noted an advanced Third World Orientation of Antiguan (Aid as recipient right).
riene	Dental Hygenist		Indicated top priority should be given to community health. PCVs observations included: Health Aide should be provided kits. More health care could be provided by lower level personnel (lack of referral system), resistance to FP is due to several factors including religion, superstition, security, desire to prove maltiness. Health system needs include material improvement maintenance, and management more than funds. Also a regional

Form 1

ISLAND: Antigua

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Simon(Williams & Bird)	General Manager Antigua Public Utilities Authority	10/5/77	<p>locations on the island. Distribution system in St. Johns is 50 years old. 60% of the water supply goes through the stand-pipes and government facilities. Domestic consumers pay \$US2.00/1000 gal. Industry \$4.00/1000. Water sampling and testing is the responsibility on the Public Health Inspectors. Barbuda's water system is almost non-existent. Wells are used. Water quality needs to be controlled. No flouridation at present. During drought water table dropped and their largest dam of 1.0 billion gallon capacity was completely empty. For the majority of the population septic tanks and open-pit latrines are used. Some of their staff (PIA) does have advanced training, which is almost completely in water supply. Mr. Simon is the only one with sewage system training. They feel the need for more training in sewage disposal - along with</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Simon (Williams & Bird)	General Manager Antigua Public Utilities Authority	10/5/77	Mr. Simon, Mr. Williams, and Mr. Bird were present at our meeting. Mr. Simon did most of the speaking with some interjections by the other two. They all emphasized the problems with the drought and consequently their lack of water. The PUA's role in health involved water supply and sewage disposal. Most of their water supply was retained in walls and dams. They do have a sea-water conversion plant which had 1.0 million gallon daily capacity. Due to 2 plant failures and the increasing cost of energy, the plant was shut-down in 1974 until this year, when due to the drought, it was re-opened at about half its capacity. Current demand is about 3.0 million gallons daily. During drought supply went down to 900,000 gallons a day. Average per caput consumption is 30 gallons per daily. They are planning for 100 gal/day. Household connections could be provided to most

Form 1

ISLAND: Antigua

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Omarde	Health Administrator Secretary for Institutions	10/4/77	<p>Dental problems may be the single greatest problem on the island. Dentists do not provide corrective services, perhaps, because of a lack of time.</p> <p>When asked what his goals would be for a national health policy, he listed the following:</p> <ol style="list-style-type: none">1. Low-cost health services to total population.2. Strong MCH, nutrition, and dental services.3. Strong hospital-based supporting services to districts4. Adequate, uninterrupted supply of drugs at a low cost.5. Community participation. <p>PAHO has promised Antigua a health planner consultant. May need more assistance in planning and programming. He reaffirmed in our last meeting that priority should be a community services.</p>

Form 1

ISLAND: Antigua

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Omarde	Health Administrator Secretary for Institutions	10/4/77	<p>good equipment is lacking. The revenue collection system in the hospital has proven to be inadequate. Those revenues generated by Holberton are remitted to the Treasury.</p> <p>Large amounts of supplies and equipment arrived from the U.S.A. last February Antigua had to pay for their transportation costs only. Mr. Omarde has the responsibility to sort, distribute, and store these materials.</p> <p>Regional system of using specialists has proven to be unreliable. PAHO/UNDP is studying a regional laboratory plan. This plan would have different specialists located on different islands with their laboratories, equipment, and sites for training. May be funded in 1979.</p>

OL

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Dr. Boyd and Mr. Eric Challenger (cont'd)	Permanent Secretary for External Affairs and Defence	10/4/77	<p>4. Immunizations - by school age must have DPI and small pox. Measles is not compulsory.</p> <p>5. Gastroenteritis</p> <p>Other problems were hypertension and diabetes in older adults. Follow-up care was inadequate from the hospital. Environmental waste and industrial pollution may become a problem as industrialization continues. Now, there is no environmental legislation. He also noted that current sewage disposal system is inadequate - it is very old.</p>
Mr. Omarde	Health Adminis- trator Secretary Institutions	10/4/77	<p>Organizationally Mr. Omarde occupies a position of equal importance to Dr. Boyd. His responsibility includes the institutional establishments, i.e. Holberton Hospital, the Mental Hospital, and the Leprosy Hospital. He appears to have conflicting views of the needs of the</p>

Form 1

ISLAND: Antigua

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Eric Challenger	Permanent Secretary for External Affairs and Defence	10/1/77	Our first and primary contact. He seems to be aware of A.I.D.'s role and warned us that many would tend to associate our visit with the treaty agreement.
Dr. Boyd	Chief Medical Officer	10/4/77	<p>Dr. Boyd is the top public health professional in the ministry and is responsible for the public health services on the island. Dr. Boyd appears to have a good grasp of most of the health problems of the island. However, his authority to influence de facto policy and to institute change is limited. Dr. Boyd listed the following as major problems:</p> <ol style="list-style-type: none"> 1. Malnutrition - total intake is inadequate for children. Currently, they are negotiating with WFP for milk. 2. Dental care for children. 3. Eye care for children - need for ophthalmologist.

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Adolphus E. Freeland	Minister of Home Affairs and Labor	10/4/77	Mr. Freeland is responsible for housing and labor as well as health. His grasp of health issues is limited. He views our mission as being intimately linked to Ambassador Ortiz's visit and the successful negotiation over the US bases. Perhaps, as a result, there seems to be a basic misunderstanding about A.I.D.'s functions and policies. He appears to view the Antiguan health system in relationship to the U.S. model. Therefore, the health problems are simply a reflection of the death of medical specialists and equipment. Within a few minutes of our first meeting, Mr. Freeland began to present us with a shopping list of needs.
Mr. E.T. Henry	Permanent Secretary - Home Affairs and Labor	10/2/77	Mr. Henry is the highest civil servant in the Ministry. He is a non-technical administrator who nevertheless is responsible for the preparation of the budget.

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
P. Merchant	Financial Secretary Ministry of Finance	10/5	health issues are viewed more as employment generation in response to particular health needs or demands on health matters: Discussed elimination of personal income tax on residents: CIMB. Conditions attendant to CIMB loans results in "tedious process" (Merchant is Antigua represen- tative to CIMB Board)

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Maginley	Permanent Secretary	10/6	Comment. Based on discussions with Ministry and Peace Corps paratechnician, I conclude health status on Barbuda is not significantly different than that found on Antigua
P. Merchant	Financial Secretary Ministry of Finance	10/5	Primary purpose of this call was to obtain copy of budget estimates, also country statistical data. For latter we were referred to chief statistician. 1977 estimates approved in March, have not yet been printed. We did obtain a copy of the budget speech and a draft copy of the capital budget, which now is separate from recurring budget. "Estimates," when available, provide reasonably hard budget data and on personnel levels. (hour contributions are also noted. It may be possible to roughly deduce government priorities and directions from capital budget. Development plan has not yet "crystallized". Community

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Maginley	Permanent Secretary, Barbuda Affairs	10/6	<p>are from Barbuda. Mr. Maginley painted rather idyllic picture of Barbuda. "Very health people" - highly religious and sedate. He acknowledged some presence of diabetics and hypertension but very little malnutrition or VD (latter was a problem a few years back but not now). Mr. Henry had no first hand information but had checked with the District Nurse who serves Barbuda and her report varied somewhat from Maginley's. Nurse reported some infant malnutrition. Diets in general are heavy on fish and lacking in vegetables. Cows in Barbuda are generally not milked. Potable water generally available but may be brackish. Some wild game is available on Barbuda. There is open season on wild pigs and guinea fowl; limited seasons on deer, duck and dove.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
C. Edwards, Marshall (Cont'd)	Permanent Secretary	10/8	Antiguan life-styles unavoidably inter-connected with US (through TV and travel. Aspirations and demands high. Comment. Both men appeared intelligent and aware. Some hesitation at first to comment on areas within domain of Home Affairs. Discussion of base agreement: Not especially generous but quite acceptable. Deserving of champagne.
Mrs. Henry	Administrative Assistant Ministry of Barbuda Affairs	10/6	New hospital to be completed next year. Six bed capacity. Minor surgery. District health doctor visits once a month as does District Health nurse. Free transportation provided to Antigua for those requiring specialized treatment.
Mr. Maginley	Permanent Secretary, Barbuda Affairs	10/6	Nurse midwife being recruited for Barbuda. Mrs. Henry thought solution might be to train someone from Barbuda. Two ward assistants at hospital (Holberton)

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
. Edwards, Marshall (Cont'd)	Permanent Secretary	10/R	<p>faster than natural rate as industry and development attract migrants back. Recommended visiting health team (US) for school health program. Early detection and treatment system: teeth, eyes, ears and nose. Need drugs for diabetics and high blood pressure. Government considering involving marketing board in drug supply chain. Indicated limited need for artificial limbs. Recommends US support for "training schemes in Public Health." Identified need for animal inspection. Cows are not being milked because of the lack of a marketing channel. Effective demand down for whole milk due to lack of confidence in system. Inspect cows for TB. Assistance also required for system collection or processing.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
High C. Marshall	Senator and Parliamentary Secretary Ministry of Economic Development Planning and Tourism.	10/8	Government is new. Thus no development plan yet. However, has clear ideas as to problems and directions. First priority is employment. New industries being actively promoted. Expects heavy industry soon. Aware of potential environmental pollution problems. Indicated need for technical assistance in this area. Said health deserves much attention, with emphasis on preventive rather than curative.
C. Edwards	and Permanent Secretary	10/8	Concerned for health conditions generally in Caribbean for its impact on tourism. Thus recommends assistance for Aedes Eradication. (Have no malaria, dengue, etc. but have vector. If one human carrier arrives it is potential trouble.) Recommends upgrading rural clinics to holding stations. Emergency capability. Screening those who must go to St. Johns. Expects population to increase

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mrs. Lynn	Chief Statistician, Ministry of Finance	10/6	Office established 1973. Prepares statistical yearbook among other documents. Yearbook comes out approximately 10 months after close of reporting year. Lynn accepts without question data received from reporting offices. She does not appear to press for updating. (For example, water house connection data is from 1970 census. She has not asked PUA for data.) Yearbook data appears highly suspect reflecting weak reporting systems in Ministries (and perhaps weak demand from policy makers who do not appear to be planning oriented.

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Miss Mathews	Head, IPPF Office, Antigua	10/6	<p>report:</p> <p>New Acceptors (1/77-8/77) - 608.</p> <p>Supplies dispensed during month:</p> <ul style="list-style-type: none">- with coupon - orals 807, condoms 10- with coupon - orals 51, condoms 418- foam 22 <p>No supply interruptions.</p> <p>Problems: Up hill work. Government gives only passive acceptance. A little government encouragement would give program a big push. IPPF not allowed in schools to do family life education. Again government acceptance would open doors.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Miss Matnews	Head, IPPF Office, Antigua	10/6	<p>midwives are paid each \$50 per month for their part-time services. No minimum time on IPPF is set. Midwives are expected to promote/attend to users as part of their regular duties. IPPF has approximately 2000 active acceptors out of 13,000 women of fertile age. A KAP study done of 520 women in 1973 indicated 54% used some form of contraception. Asked how this reconciled with the constant birth rate, she indicated that most users are over 25 and have had 1-3 prior children. IPPF estimates 450-500 IUD users at the rate of 150 new acceptors per year. Rate is expected to be up this year since introduction of cooper T which is quite popular. Motivation of Acceptors: health (spacing), economics, better life. Record system appeared good. Selected data from August.</p>

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Miss Mathews	Head, IPPF Office, Antigua	10/6	<p>Program started late 1973. Community based distribution system. Staff: Thirteen Government nurse-midwives, play two non-government. Three M.D.'s (Populace has a strong medical orientation. Prefer advice from Physicians.)</p> <p>Program uses coupon system. These are coded as to recruiting locale, user, and dispenser. There are 31 outlets (dispensers). Most users prefer St. Johns outlets to protect privacy. The coupons cost .50 each. but are free to those that can not pay. The outlet retains the fee. IPPF supplies are also available to non-coupon holders. In addition, non-IPPF supplies are readily available in drug houses. IPPF has tried to obtain data from customs on these but has been unsuccessful. (Most doctors have linkages to drug houses.) Services available: Orals, condoms, IUD, tubal ligations. Each acceptor of orals is given a rapid medical exam. Government</p>

V. Recommendations for A.I.D.

On a bilateral basis, there is only one programmatic area that the team can recommend with some certainty - water supply and sewerage systems. There appear to be opportunities for increased PVO participation in areas of GOA perceived priorities, i.e. dental and specialized staff, and if GOA acceptance could be achieved, in the area of "Family Life" (F.P.) education. Other needs identified in Section IV (A) above are also worthy of further attention but in view of the small scale and differences of needs, might better be met in a regional context.

The team feels that there is basis for a sector assessment but that it should focus on certain aspects of the sector we deem to be deficient in quantity and quality of information. A full blown S.A. is not necessary. Any analysis, however, should be linked to future programming activity.

Island: Antigua

IV. Evaluation of Actor's Perceptions vs. Situational Analysis

A. Do health policy, goals and priorities match known health needs?

At a national level, there are no published health policies or goals. Priorities are a function of the individual actors and vary both in ranking and from day-to-day. However, the perceptions of the actors generally match the stated priorities. The health services, however, do not seem to be in conformity with the stated priorities, i.e. the continuing emphasis on curative, hospital-based services. Our perception of the needs of the health system, though, were mentioned as being important at various times by one or more of the actors. These are (1) water supply and sewerage, (2) family life education and MCH, (3) hypertension, diabetes and obesity, (4) planning and management (efficiency of system), (5) dental care (6) training and (7) environmental pollution.

B. Is there enough information available to justify programming?

The team believes that there is sufficient information available to identify appropriate sector emphases and to state project outlines within a DAP context. The team is not able, however, to suggest project priority rankings beyond that for water and sewerage to which we assign first priority. Moreover, there is not presently adequate information available for detailed programming beyond the PID level and some further information generation and analyses will be required even for PID preparation on an island specific basis.

and the medical consciousness of the populace (one observer suggested they were a nation of hypochondriacs).

J. Socio-Antropological Aspects

- In talks with various health personnel at all levels both national and expatriate, it seemed that the major causes of weaning malnutrition are the decline of breastfeeding and the use of dilute formulas. Both cosmetic and economic considerations were cited as contributing to this decline in breastfeeding. The women said they were afraid to lose their attractiveness and, therefore, their men. Ignorance of baby formula together with pure lack of funds were the reasons that mothers make an 8 ounce tin of milk last for two weeks.
- The nature of the society as far as mating patterns are concerned, contribute to the high rate of illegitimacy. Girls as young as 12 have babies because (1) everyone loves babies, (2) men feel it insures their status as a man, and (3) women feel it's a hold they have on a man.
- For such reasons, F.P. is not well-accepted. Also, there are superstitions, such as "pills weaken the blood". There is sometime the feeling that pills taken every few days will prevent conception. The "catch-up" theory is also cited, miss some days, but if all the pills are taken within the right period of time, conception will be prevented.

Data on government budgets for the health sector are included in the Annual Recurrent Budget Estimates (the 1977 estimates are awaiting publication) thus, the latest available data is for 1976, extractions from which are found in the accompanying Form 2. These data are organized by the principal operating departments: Medical General, Central Board of Health and Institutions, and includes a detailed listing of personnel. No records appear to be maintained, however, which permit the ready calculation of costs for specific services or programs.

The 1976 Estimates suggest that the Ministry spends approximately 12% of its recurrent budget on basic health services. Another 1.5% is spent on mental care, the leper home, and geriatric care. In addition, the costs of services provided to the Ministry by the Ministry of Public Works and personnel costs of the Central Water Authority represent a further .4% of the budget. The total level of 13.9% is somewhat higher than the previous 5 year average of 12%.

Of the funds budgeted for health care, approximately 1/2 is related directly to the operation of the Holberton Hospital. The remainder breaks down approximately 17% for Medical General and 33% for the Central Board of Health (of which 19% of the 33% represents sanitation costs).

The team was unable to obtain data on the costs of medical services to the user. Statutory Rules and Orders, No. 18, lists the costs of services at Holberton Hospital. However, the rules provide for various reductions or exemptions for age, low income, etc. Moreover, the present regime appears to favor increasing the coverage of free services.

Nevertheless, there are several indications that populace expenditures in the private sector for health purposes are not negligible. These include the fact that doctors spend up to 80% of their time on private practice, the existence of 11 pharmacies

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Training for pharmacists is not accredited by the West Indies or United Kingdom. In spite of this, there is a high rate of emigration. The sole pharmacist at the hospital is leaving.

- Licensing, Quality - Passing the final exam is the licensing mechanism. Quality varies because of training and the lack of a standardized final exam, and is considered to be poor by Dr. Charles. At the hospital, there is no supervision of pharmacists which also contributes to low quality. At the St. John's Health Clinic, however, he felt supervision was adequate if not good.
- Regulations - Drugs including dangerous drugs such as sleeping pills, tranquilizers, etc. may be sold over-the-counter.
- Role of pharmacists - There is a high incidence of prescribing done by pharmacist
- Formulary - Dr. Charles has been asked to draw up a formulary for use in Antigua. He hopes to make a list of about 2-3 preparations for each generic drug type and put it in booklet form to make it easy for doctors to use. He hopes to have the first draft by the end of 1977. This same attempt at a formulary was made in 1973 but never adopted into law.
- Also mentioned was the Caricom bulk ordering of about 20 drugs to reduce cost.

I. Financing

Health services are financed from a) government revenues, b) external donors and c) users. Donor contributions are noted in Part II. Essentially all major capital projects are externally financed. The family planning program is totally dependent on external financing. Some staff in government facilities are also externally financed, notably the Peace Corps.

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H. Pharmaceutical System

Dr. John Charles - formulary

- There's no national formulary. However, Dr. Charles is working on one.
- Drugs are prescribed in a wide variety of brand names at great expense to the poor. Doctors, both in the hospital and health centers as well as private physicians, will prescribe drugs not available at free clinics. Therefore, the poor are unable to purchase.
- Number and distribution of pharmacies - There are about 11 pharmacies in the islands. One at the hospital, one at St. John's Health Clinic, 8 other pharmacies are in St. John's.
- Production and distribution (pharmaceuticals) - There is no production of medical drugs in Antigua. Storage facilities are inadequate. Shipments sometimes arrive at the airport or post office and are left with no notification of arrival. Transport to outlying clinics is done in ice flasks and storage at these clinics is in domestic refrigerators with no precise temperature control (need for thermometer). The possibility of renting commercial space in St. John's for cooling was mentioned as a possibility for overcoming space problem. (see Problems section)
- Training - Training for pharmacists in Antigua is of 2-years duration. Because of a decline of pharmacists or teachers of pharmacy, there are no lectures in pharmacy for the students. Dr. Charles was asked to draw up the final examination for the current pharmacy students as there is no standard format. He also mentioned that he is tutoring them for the last 3 months of training in subjects that should have been covered in the first three months.

G. Health Facilities and Equipment

The documentation for the type, location, and size of health facilities is quite good. The latest printed statistics are a little dated (1973), but more recent information is available. Perhaps, the greatest deficiency lies in the accounting for equipment in each of the facilities.

Again, statistics on beds, utilization rates, occupancy rates, length of stay appear to be available in the hospital and in St. Johns Health Centre. Some information is available on quality of care, but it is limited. For example, there has been no time/production studies of various categories of medical worker. There is some reasonable doubt whether M.D.s are spending enough time with their public patients.

There is no documentation of maintenance needs. However, in interview after interview, the need for improved maintenance was repeated and emphasized. Nevertheless, the health centres visited appeared to be in excellent condition. Equipment condition was a different story.

There was some knowledge of future plans and this was reflected in the Budget Estimates.

Overall, the data base for this section appears to be fundamentally sound.

F. Manpower

Overall, the documentation on manpower is quite good. The budget Estimates meticulously list each category of public health worker, as do figures from the statistical unit from the St. Johns Health Centre. Documentation on staffing patterns for the Board of Health is available. Staffing patterns are not necessarily delineated by type of service, because most workers carry-out multipurpose roles. Geographically, most health workers are concentrated in and around St. Johns. Information on training is lacking. There is no training plan, for example. Most training for the more sophisticated health workers takes place in the U.K., U.S.A., and Canada. There's an increasing awareness of the prohibitive cost of training people outside of the Caribbean area. Duration of local training is known. There is some indication that training is not always relevant, i.e. community health aides training. Continuing education is virtually non-existent. What does exist is unstructured. However, the need for such ongoing training is recognized.

Licensure requirements are noted in the public health legislation. Details were not determined.

Rate of production is known for locals being trained in-country and overseas. There is no organized system for projecting manpower needs.

There are no hard data on manpower emigration. Traditionally, it has been a significant problem.

Overall, a good deal of information was elicited through conversations, but little could be verified by documentation.

E. Environmental Sanitation

As in most of the other sections the information available was in the form of interviews. Written documentation was not made available to us by the Antigua Public Utility Authority. Nevertheless, it can be said that water supply is a critical problem in Antigua. The recent drought has had its effect on health status as evidenced by the recent rise in the incidence of gastroenteritis and scabies. According to water authorities the problem lies in the quantity of the water and the antiquity of the system. The coverage appears to be widespread - household connections could be provided to any location on the island. However, at present 50% of the water is supplied to standpipes or to government facilities. Quality appears to be good. The situation in Barbuda is different. The water system is non-existent and wells are widely utilized. Administratively, water supply and sewage disposal is the responsibility of the Antigua Public Utility Authority, a semi-autonomous agency, which receives government funding. Charges to consumers (\$US2.00/1,000 gal. - domestic and \$US4.00/1,000 gal. - industry) provide the remainder of their funding.

Water sampling and collection is the responsibility of the Public Health inspectors. 25% of the PUA budget is devoted to water and sewage. Most of the population rely on septic tanks and open-pit latrines.

Staffing of knowledgeable people is thin. Only the head of the PUA has advanced training in both water and sewage disposal systems.

Finally, the responsibility for refuse disposal and food sanitation lies with the Public Health Inspectors. Specific data on their activities were not made available to us.

Specific Programs:

- Immunization - limited range available. Polio and measles, for example, are not available. Smallpox and DPT are compulsory for entering school.
- MCH - commands a high priority. Data relatively better on this program.
- Vector control - Organization for Aedes eradication continues to exist but data on current activities was not available. Policy level expressed concern for possible disaster (Malaria, yellow fever, etc.) which would affect tourism industry.
- Family Planning - Run privately, data at IPPF good. Government has not taken position yet on FP.
- Curative Medical Care - Essence of health system.
- Occupational Health - No laws exist governing occupational health on environmental control, which may effect industrialization plans.
- Health Education - Integrated into district clinic programs. Family life education is not well accepted.
- Social Security: Does not include health benefits.
- Nutrition
 1. Nutrition Education - some nutrition education does exist at clinic level. No intersectoral relationship exists with agriculture to meet nutrition needs. No mass media education.
 2. Supplemental feeding does not exist at present time. Negotiations are underway with WFP for milk.
 3. Weaning food availability. Private supply is available but considered expensive and misused.

D. Health Services

There is limited written documentation on health services; the majority of information obtained was by interview. Services are provided by both the public and private sectors with the physicians providing services in both. Duplication and overlap exist throughout the system.

Basic health service coverage and appears reasonably good. Services are reasonably accessible although the extent of services is limited.

The referral system is poor and follow-up is non-existent. There is limited communication between institutional and public health services.

Target population is general and service targets are not stated.

There is no analysis on reporting on users by services.

Costs of health service by program, utilization patterns, etc. is not available.

It is difficult to ascertain the quality of medical services due to the absence of data and time limitations. The Pharmacy sub-sector was judged to be poor by the head of the National Committee to create the National Formulary. Services appeared to be inefficient.

Populace is physician oriented.

The Government displayed a bias towards quality curative services which correlates with the sizeable budget allocation for the hospital services.

Geriatric and Chronically Sick Hospital, St. George's

This hospital, also housed in ancient premises, offers accommodation for geriatric patients, social outcasts, the chronic sick of all ages and mentally subnormal children. It has a capacity for 120 patients, but some 102 beds were occupied when the team paid its visit. Organized treatment is limited and as in the mental hospital, custodial care is the hospital's main function.

Tuberculosis Unit

This is a small pavilion type hospital which can accommodate 60 patients.

The prevailing conditions are considerably better than in the mental or geriatric hospitals.

Only 19 beds were occupied at the time of the team's visit.

Equipment at health centers is extremely minimal. Equipment at hospitals is adequate with the exception of an Autoclavex, and X-ray machine (one each, both rather old).

Average length of stay in all 3 general hospitals (1975)

<u>Services</u>	<u>Days</u>
Medical	13
Surgical	10.6
Pediatric	8
Psychiatric	15.7
Ophthalmology	13
Gynecology lab	4
Newborns	3

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- a) Adult general medicine
- b) Adult general surgery
- c) Pediatric general medicine
- d) Pediatric general surgery
- e) Obstetrics and Gynecology
- f) Casualty and Out-Patient services including ophthalmology
- g) Psychiatric assessment unit

In support of these general facilities, there is one operating theater, two labor rooms, one general purpose x-ray room and one pathology laboratory. There is also a small mortuary and post mortem room.

Two other small general hospitals provide general medical care and minor surgery.

Mental Hospital, St. George's

This hospital, housed in one of the old 18th century forts, has a capacity for 200 patients. Some 120 beds were occupied at the time of the team's visit. There are rudimentary and very basic facilities available for general psychiatry. The accommodation in all respects is very poor. The kitchen and many of the ward sanitary annexes have not been revealed since their construction. Modern psychiatric treatment facilities are totally lacking. There is a small rehabilitation center which does not function in any organized way.

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in classrooms and two-thirds of the time on the hospital ward, or b) with a university degree and 3 months of field training (one month in clinics and 2 months on the wards).

G. Health facilities and equipment

There are 22 visiting stations on Grenada, 4 on Carriacou and one on Petit Martinique. There are 4 health centers. There are 3 special hospitals; one geriatric, one mental and one TB hospital. There is one general laboratory located in the General Hospital in St. George. Facilities are adequately distributed over the country, so that the majority of the population is close to a facility. General care facilities are more than adequate for needs. Utilization of general facilities is low.

Hospital Facilities in Grenada, 1974

Government Hospitals	Bed Capacity	Free Treatment
General hospital St. George's	220	182
Princess Alice Grenville	40	28
Princess Royal Carriacou	40	38
Geriatric and Chronic Sick St. George's	120	120
Mental Hospital St. George's	200	200
Tuberculosis Unit St. George's	60	55

General Hospital, St. George's

This general hospital with a capacity of 220 beds provides the following medical services:

CARICOM is devising a plan for a uniform training and education program which will enable nurses to be employed on a region-wide basis; this should help to control the supply of nurses.

This year, 45 new students were accepted into the nursing program; there are currently 20 waiting to do the midwifery training, 13 to do final exams and 17 who failed and are repeating. The nurse assistant program was dropped this year due to a conflict between roles of nursing students and assistants. While the pool for nurses seems to be adequate, the only source of employment in the private sector is in family planning program and private hospitals. Hence the major employer is the government.

For most of the occupations related to nursing, training is conducted locally, for example, health aides, nursing assistants and community workers. It is proposed that additional training for local health assistants be expanded by participation in the PAHO allied health training program. Some are receiving training already.

The most severe shortage is the lack of maintenance personnel to operate, repair and maintain equipment. Currently, there are no maintenance repairmen to provide training and assistance to others who work under them. Thus, the maintenance and repair of equipment in hospitals and public works, particularly water, is non-existent. Some discussion has started with PAHO to train water maintenance personnel but that is about the extent of activities. Some training of maintenance personnel to repair medical equipment currently owned by the hospital is critical.

Registered nurses have a special schedule of salaries. They start at the same level as civil servants with three years experience. It takes only three years to become a R.N., usually by a) spending one-third of the time

At the administrative level, the UWI provides a six month course (Kingston's campus) in hospital administration, while CARICOM sponsors a six-month course designed to provide nurses with administrative skills. However, most training in administration is still performed outside of the region either in the United Kingdom, Canada or the United States. At the specialist level, some training of MD's take place at UWI, but the supply is limited, for positions are allotted on a country specific basis. Additionally, most graduates either remain in Jamaica or migrate to the U.K., Canada and the U.S where they are able to earn higher salaries.

Except for a few categories of technical personnel such as nurses, pharmacists and public health inspectors, there is little or no local training for technical personnel. Post graduate training for nurses must be performed at UWI or some foreign institution. Current institutions cannot provide training needs for water sanitation engineers and currently there is no one to fill the post, it is proposed that two be trained to manage and operate the water supply systems.

For the past three years, the nursing school has not accepted more students for economic reasons. Formerly nursing school applicants had to pass a preliminary exam in order to get into nursing school. Now applicants who have a minimum of level seven educational requirements are reviewed by a Committee whose members include the Prime Minister, the Chairman (who is Secretary of State and Health), the Director of the Nursing School, the CMO and the Head Matron.

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Public Health Inspector	9	-
Student Health Inspector	5	-
Public Health Lab. Techn.	1	-
Senior Dispenser	1	1
Steward/Dispenser	3	9
Medical Storekeeper	1	1
Chief Radiographer	1	0
Radiographer	2	1
X-ray technician	1	0
Chief lab technician	1	1
Senior lab. technician	1	1
Intermediate lab tech.	3	3
Student technician	6	6
Lab. assistant	2	-
Dietitian	1	0
Physiotherapist	1	0

Training of Health Personnel

As a general rule, training options open to health personnel in Grenada are limited.

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Nursing Staff

Chief Nursing Officer	1	1
Matron - General Hospital	1	1
Matron - Other Hospital	3	2 (acting)
Assistant Matron	2	2
Departmental Sister	3	3
Ward Sister	22	13
Staff Nurse	51	30
Nursing Assistant	10	10
Student Nursing Assistant	15	0
Nursing Aide	36	36
Nursing Attendant	23	12
Student Nurse	169	128
Attendants - Mental Hospital	60	60
Superintendent Pub. H. Nurse	1	1
Public Health Nurse	8	6
District Nurse	36	25
Director - School Nursing	1	1
Sister Tutor - General	1	0
Nursing Tutors	4	1
Sister Tutor (Midwifery)	1	0
Nursing Instructor	2	1

Other Technical Posts

Health Ed. Officer	1	1
Chief Pub. Health Officer	1	1
Senior Pub. Health Officer	1	1

The composition and distribution of the manpower resources needed are adequately reflected in the staffing plan, however, adequate planning as it relates to the expense of salaries and training of health manpower is severely lacking. For instance, there is an established post for both a medical officer and a superintendent of medical officers but these positions are vacant. There are no funds in the health budget to cover either the training or salaries of these individuals.

<u>Staffing</u>	<u>Established-1970</u>	<u>Filled - 1970</u>
Chief Medical Officer	1	1
Medical Officer	2	0
Medical Superintendent	1	0
<u>Specialist</u>		
Physician	1	1
Surgeon	2	1
Obstetrician	1	1
Anaesthetist	2	1
Psychiatrist	1	0
Ophthalmologist (pt)	1	0
<u>General Duty</u>		
House Officer	4	3 $\frac{1}{2}$
District Medical Officer	10	8
Dental Surgeon	2	1

turnover of workers, and chronic shortages of insecticide (PAHO provides it), the island has the lowest index (3.2%) of infestation of the Eastern Caribbean area.

Food Sanitation

Other animal health problems in Grenada are minor; no hoof and mouth, brucellosis or bovine tuberculosis has been discovered. There are two veterinarians on the island - both are in Grenada on a temporary basis. It is impossible to inspect all island stock but spot checks have revealed only minor problems. A plan is being developed by the veterinarians to test for brucellosis.

There is one abattoir in St. George which slaughters 6-7 head of cattle once each week. Refrigeration facilities are limited, therefore, only a week's supply of meat is prepared at one time. Sanitary conditions at the plant are not good but since animal disease problems are limited, hygiene is the primary concern. Slaughtering is also done at seven other sites around the island, but there is no inspection process there. There are no trained veterinary assistants on the island. Since animal health problems are minimal, a cadre of assistants, under the supervision of a single veterinarian, could probably satisfy animal health needs.

F. Manpower Resources

Quantity

The correlation between the quality of the delivery of health care and the quantity and variety of health manpower available to provide that care in Grenada is quickly apparent through the examination of the health services' current staffing pattern.

which have been completed include one for a sewerage system in Grenville, and one for renovation of the present St. George system. The Grand Anse-Morne Rouge system would serve many of the major tourist facilities in St. George. The hotels had agreed a few years ago to provide financial support for the system, but the recession has created financial problems for the tourist industry so the support is not now forthcoming.

Solid Waste disposal is hampered by a shortage of vehicles for collection and for sanitary land fill operations. Although there are day and night collection crews on the job, maintenance people work only during the day. Heavy equipment must be borrowed from the Ministry of Public Works to complete land fill operations. It is rarely available. In Grenville and Sauteurs, there is one truck per town. The beach is used for garbage disposal in Sauteurs. In Gouyave and Grenville, waste is dumped into the sea.

Pest control is an important aspect of environmental sanitation in Grenada. The inadequate disposal of wastes attracts rodents and flies. Both are present in large numbers. The government has a continuous program of pest control but is again hampered by the shortage of supplies and equipment and ineffective health education resources.

The mongoose is a reservoir of rabies on Grenada. A mongoose elimination campaign is waged constantly and has apparently been very effective. Only 5 cases of rabies were reported in 1976. Over one thousand animals were captured that year and only 6 were rabid.

There is an *Aedes Aegypti* eradication program in Grenada which has been in progress for 6 years. Despite transportation problems, high

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Waste Disposal

The sewerage system in St. George was constructed in the 1930's and is now grossly inadequate. The population of St. George is growing at a rate in excess of ten percent per year. No new waste disposal facility has been constructed to serve the growing population. Approximately 50% of the city's residents have built septic tanks while the less affluent use pit privies. The profusion of septic tanks taxes the absorptive capacity of the soil, and pit privies sometimes overflow during heavy rainstorms. The outfall for the sewerage system is broken. Untreated sewage is now being discharged too close to shore and is becoming a serious health hazard.

Management capability is inadequate for the work at hand. The sewerage system is currently being managed by a plumber. There are no sanitary engineers available for the post.

Waste disposal in the rest of Grenada is taken care of by septic tank (15%), pit privies (56.5%) or buckets (10.5%). In the rural areas, the pollution of water sources in catchment areas is a problem and in some cases the Water Commission has constructed septic tanks to protect the water supply. The Water Commission also manufactures a water seal toilet form and provides technical assistance for its installation through the Ministry of Health. Approximately EC \$1453 was earned in 1975 from the sale of these units (at EC \$20 each).

In 1973 a feasibility study was done for a sewerage system which would supplement the capacity of the current St. George's system. In 1973 prices, the cost was estimated to be EC \$3.9 million. Other studies

out of date and usually very low, therefore, water revenues are low. No attempt has been made to reassess properties in order to increase water revenues. Only new buildings are assessed at their current market value.

The current water supply system in St. George's is in extremely poor condition. An estimated 40-50% of production is lost (primarily through leakage) because of the poor condition of the distribution system.

There are four water supply projects now in varying stages of development. They include Belvedere-St. John, St. David, Mardi-Gras, and Peggysville. It is estimated that approximately 50% of the population living in the area of the new water supply systems will pay the EC \$60-100 charge for a house connection. The rest of the population will be served by public standpipes.

All water supplies in Grenada must be treated before they are potable. The wide dispersal of settlements and animal grazing areas throughout the catchment areas makes a full purification process necessary. The government acquisition of land in catchment areas and around storage and treatment facilities is usually insufficient. Other problems which plague the Water Commission include the poor condition of the roads which slows the movement of supplies and equipment; inadequate means for the maintenance of chlorinators; shortage of laboratory facilities for tests; and a vehicle shortage which prevents the collection of samples for testing.

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A National Nutrition Commission exists, composed of representatives of several Ministries. Major efforts include participation in a nutrition survey with CFNI and periodic community campaigns like preparing local foods. Commission's role is to coordinate efforts of several Ministries.

There is no weaning food available presently. There is interest in developing an indigenous food, however, government subsidization would be both necessary but financially difficult.

E. Environmental Sanitation

Water supply - although Grenada has an abundant supply of natural water resources, the supply of potable water is inadequate because of the lack of distribution and treatment facilities. In mid 1977 there were 22 treatment and storage facilities which serve the urban and suburban population centers. It is estimated that in 1970, 36% of the population had a piped water supply. The government hopes to increase that to 70% by 1990 through the consolidation of facilities from 22 to 13 and the improvement and expansion of the 13 facilities.

In 1969, legislation was approved which created a water commission. The Water Commission is under the Ministry of Environmental Development, Works and Port. The Permanent Secretary is head of the Board of Directors, which includes representatives from the Ministries of Finance and Health, the Trade Union and the Chamber of Commerce. Most of the EC \$2.65 million, which is currently being supplied for the development of water resources, is provided by CIDA and the CDB. Water revenues are derived from the collection of a tax of 10% of the annual rental value of properties as established by Inland Revenue. Assessments are

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Director estimated 10% of fertile age women were enrolled in the program. In addition to orals and IUDs, there are some tubal ligations performed. The only pap smears are done by The Family Planning Association.

Health Education is conducted with a staff of one. He is a qualified health educator who provides some original pamphlets to the health stations. He also teaches health sciences in teachers' college and provides some lectures to the community. There is no audio visual equipment in the department.

Mental Health - There is a ten bed unit at St. George's General Hospital plus a 200 bed mental hospital. There are also approximately 100 (1977) outpatients. Both inpatients and outpatients are treated with drugs. There is one trained psychologist; the rest of the staff provide custodial care with sporadic rehabilitation efforts.

There is no extensive old age insurance program. However, there is a budgetary line item that provides a small allowance for elderly destitute people.

Nutrition - Nutrition education is given in antenatal and child health clinics. Growth charts are used for children up to 2 years of age. Some supplemental feeding is done at stations depending on availability of milk. Other supplemental feeding is done at primary schools. In 1977 32 out of 67 schools provided either mid-day snack or hot lunch.

Ministry of Education pays for cook and kitchen equipment. Food comes largely from fees or community support. Food discontinued from UNICEF and CWS.

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Given good general health conditions, the demand for services is not high either. It may, therefore, be assumed that low utilization reflects low demand rather than other barriers in preclusion of services.

There is no apparent linkage of health status/needs to services expansion or contraction. A service is set up as part of a standard health system and is continued regardless of needs. There is no periodic evaluation.

Specific programs

Immunization is largely confined to tetanus toxoid, DPT and polio. Occasional campaigns are mounted, but largely as part of MCH service. A 1977 measles epidemic did not result in a measles vaccination campaign. There was no vaccine purchased.

MCH is the main service provided at health stations and centers. Maternal care and births account for more than 40% of services provided at general hospitals.

Vector control is limited to Aedes Aegypti eradication efforts. Program consists of perifocal - aquatic spraying and inspection. In 1975, the 10th cycle of verification and treatment overall index of infestation was 5.3.

Family Planning - there is no government sponsored family planning service. There is no formal government policy on the topic. There are four clinics in the country run by the Grenada Family Planning Association, a private association affiliated with I.P.P.F. The Executive

Home Visits

Antenatal	459
Post natal	1,821
Infants (under 1 yr.)	897
Pre-school (1-5)	842
School child	112
Tuberculosis	2
Mental	62
Other	1,975

District Nurse Maternity Service

Number of confinements	871
Fee paying	104
Referred to hospital	219
Number of antenatal clinics	1,648
Referred to DMO*	682
Number child health clinics	1,216
Gastro-enteritis (1st visit)	98
Malnutrition (1st visit)	209
Referred to DMO*	218
DPT Immunization	4,823
Polio	5,608

Demand for health services

The demand is mixed. Attendance at clinics conducted by doctors is higher than at those attended by a nurse (29,029 patients at 1626 clinics, an average of 47 per clinic attended by physician and 18 patients per clinic attended by nurse in 1975). Antenatal care and minor wounds are adequately cared for by nursing staff. Other utilization of services is not high.

*DMO = District Medical Officer

of special clinics and in the medico social aspects of health visiting, health education and the control of venereal diseases, tuberculosis and leprosy. The public health nurse assists in the organization and conduct of dental clinics.

Patient attendance at scheduled clinics, at visiting stations and health centers is free of charge. Except in the case of the aged, workers, workers' children under the age of 14 and paupers, a payment of 36 or 48 cents according to the nature of a prescription must be made for medicines supplied at the dispensary. The categories of patients listed above are also entitled to free domiciliary attention and medicine.

Referral system is not from visiting station to health center, but rather from District Medical Officer, at whatever point he sees the patient, to the hospital.

Utilization of clinics - 1975 data (Annual Report of Chief Medical Officer)

District Nurse clinics:

Number of dressings	113,320
Urine tests - diabetes	30,984
Injections - tetanus toxoid	3,240
Penicillin	15,290
Insulin	5,575
A.T.S.	586
Others	1,168
Small pox	1,168

covers administration of all health facilities. The National Planning Agency in the Prime Minister's Office reviews priorities and approves or disapproves requests for external assistance. The office makes some attempt to encourage more efficient use of foreign assistance funds. It plans to establish a unit with some project development and evaluation capacity through an OAS grant in 1978.

D. Health Services

The principal providers are nurses. There are 27 visiting stations; each approximately three miles apart. The average population of each target area is 4,000. This is the target population for most services.

Services provided at the stations are:

- a) domiciliary midwifery
- b) casualty treatment
- c) antenatal care
- d) child care
- e) home visits (diabetic, other)
- f) immunizations

When the District Medical Officer visits a station (1-2 per week) medicines are dispensed. A licensed dispenser accompanies the physician.

There are also four health centers which are slightly larger but provide basically the same services to the same size population. The difference is that these serve as headquarters for the public health nurses.

At each center a public health nurse exercises a supervisory role over the nurses in her zone, assisting them in the organization and conduct

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Study results show the average Hb. concentration among the women in the sample to be 10.3 gms. per 100 ml. of blood. Fifty-one percent of them had an Hb. of less than 11 gms. Eighty-five percent had values of less than 9 gms. which is a high risk category.

The average Hb. for the children is, on the other hand, more satisfactory and the range is narrower. There was no mention or recognition of other deficiencies on the island. While statistics on breastfeeding were not available, it is not considered to be widely practiced which further aggravates the problem of malnutrition among infants.

C. National Health Policy

No formal national health policy exists; the priorities stated are formally the same as those which were established by the Caribbean Ministries of Health. In an informal draft of objectives, the following goals were stated:

- a) provision of integrated services ;
- b) satisfaction of popular demands and political commitments

There is no statement on the relationship of health sector objectives to other sector objectives or the relation of health problems to other objectives.

National Administrative and Planning Organization - The Minister of Health is responsible for health policy. He has an internal policy advisory committee which is composed of senior medical officers. The Permanent Secretary is the chief staff officer, responsible for administration, financial planning and budget control, and adherence to Civil Service requirements. The Chief Medical Officer is responsible for the delivery of health care. The Hospital Administrator's role

The main source of other animal protein was fresh fish and chicken backs, necks and wings.

Approximately one-third of the children consumed peas which are also rich in protein.

Interestingly enough, only a small proportion of the children eat vegetables, probably due to the high cash value of these crops; they are sold rather than consumed in order to receive cash to purchase other items.

Although the results do not give an idea of amounts and proportions consumed, the raw data from the survey indicates that the diet is poorly balanced and that better efforts must be made to inform people of the best means of using the available food in dishes to which they are accustomed.

Iron Deficiency Anemia

This section is based on information taken from clinic record cards of women attending prenatal clinics in the six clinics previously mentioned in the section on malnutrition. Also included are data on children between the ages of two and five years from the three villages described in the malnutrition section.

It is generally accepted that iron deficiency anemia is by far the most common nutritional disorder and the most common cause of anemia for females of the child bearing age (15-44). It is also well known that severe anemia in pregnant women increases maternal morbidity and mortality and increases the risk to the fetus.

The variations are even more widespread when results are analyzed by area. In Victoria, the figure is extremely low, only 3.3% and in Gouyave, 3.3%. Discussion of these figures with senior health officers in the Ministry of Health resulted in the expression of the view that Victoria and Gouyave are economically depressed areas. The differences, however, are too large and one cannot but suspect that there are other factors (such as food availability, general level of education, infant feeding practices, weaning habits, awareness of the problem, school feeding programs, etc.) which may account for some of the difference. The evidence indicates that there seem to be pockets of population where most of the children are malnourished with a considerable proportion exhibiting symptoms of severe malnutrition.

Food consumption

Data for this study is based on the sample of children from the three clinics of L'Anse, Clozier and Florida. Twenty-four hours food intake was determined by the recall method, and only data on the two to four year olds has been used.

Among the cereals, bread and rice are most frequently consumed, followed by flour in the form of porridge, or dumplings.

More than three-fourths of the children had milk at least once a day, most of it reconstituted from whole milk powder, but a good proportion consumed skim milk.

A sizeable number of children had cocoa added to the milk and quite a number of them either had sugar or glucose as well.

Table IV

Weight for Age by
Source of Data

Source of Data	Percentage by Standard Weight for Age								Total
	90% & Over (N)		75 - 89% (I)		50 - 74% (II)		Under 50% (III)		
	No.	%	No.	%	No.	%	No.	%	
St. Georges	291	66.6	109	24.9	28	6.4	9	2.1	457
St. Peter's	164	65.9	70	28.1	14	5.6	1	0.4	249
St. David's	102	59.0	50	28.9	21	12.1			173
St. Andrew's	2	3.9	25	57.0	21	41.2	2	3.9	51
St. John's	3	8.3	20	58.8	9	26.5	2	5.9	34
St. Elizabeth	73	67.5	28	25.9	4	3.7	3	2.8	108
St. George's, Fl.									
The L'Anse-au-Loup	29	59.0	18	25.0	2	4.0	1	2.0	50
Total	654	60.2	321	29.0	99	9.0	18	1.6	1102

Interpretation

The Gueri study reveals that 39.2% of all children in the sample are malnourished by the Gomez standard (their weight for age falls below 90% of that considered as the standard). However, of this proportion, only 1.6% of the children are severely malnourished and 9% moderately malnourished. The study concludes that the latter two figures are very similar to conditions found in other Caribbean territories, while the figure of 29% of children "mildly malnourished" (first degree) compares favorably with other territories.

Rather large variations appear when study results are analyzed by age groups and specially by source of data. While the percentage of well nourished children is 73% in the first year of life (Table III), it gradually decreases in the older age groups, with the lowest proportion (41.9%) in the 48-57 months age group.

Table II

Nutritional Status by Weight for
Age of Children Under 5 Years

Nutritional Status (Gomez Classification)	Number of Children	Percentage
Normal	664	60.3
1st degree malnutrition	321	29.1
2nd degree malnutrition	99	9.0
3rd degree malnutrition	18	1.6
TOTAL	1,102	100.0%

Table III

Nutritional Status (Weight for Age)
by Age Groups

Age in Months	Normal		1st Degree		2nd Degree		3rd Degree		Total
	No.	%	No.	%	No.	%	No.	%	
0-11	379	73.1	106	20.5	24	4.5	9	1.7	518
12-23	165	57.9	104	32.7	44	13.9	5	1.6	318
24-35	77	46.4	71	42.8	17	10.2	1	0.6	166
35-47	30	43.5	27	39.1	10	14.5	2	2.9	69
48-59	13	41.9	13	41.9	4	12.9	1	3.2	31
Total	664	60.3	321	29.0	99	9.0	18	1.6	1102

Data on Malnutrition

Table 1
Attendance at Child Welfare Clinics

	YEAR			
	1971	1972	1973	1974
Total attendance	42,216	21,177	7,997	9,667
New cases	3,030	1,734	1,297	1,632

Tables Source: Gueri, Miguel; CFNI, Nutritional Status of Young Children in Grenada, page 2, April 1976.

Available information indicates that attendance at the child welfare clinics has declined quite drastically since 1971 (Table 1), with a record low in 1973 (only 18% of the total attendance in 1971) and a slight increase for 1974. The decline is attributed to the discontinuation of the supplementary feeding program which was halted in 1971.

Gomez Classification: Table II shows the nutritional status of the 1,102 children in the sample, according to the Gomez Classification.

Table III shows the nutritional status of the children classified by age groups.

Finally, Table IV shows the percentage of the standard weights for age according to the source of data of information.

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OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Ms. Marion Williams	Head-Nursing School		
David Thompson	Financial Advisor to Min. of Finance		
Don Wilbur	Architect-Planner Min. Works & Comm.		Standard design-health centers
George Brathwaite	Min. Planning, Social Dev. including Health		
J. M. Jerome			

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Douglas Stone	Mgr., Grenada Housing Auth.	10/05	
Mr. Bezze - MOH	Hosp. Admin.		
Mrs. Telesford	Sr. P.H. Nurse		
Mr. Robinson	Dir., Training		
Mr. Benjamin	Office, Prime Minister		
Mrs. Augustin	CNO-MOH		
Mr. R. E. Noel	Caricom. Sec., Sanitary		
Mr. Redhead	Health Educa. Officer		
Mr. Nedd	Chief Tech. Off. Agronomy Min. Agriculture, Food Production		

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Dr. Rapier	Superintendent-Hospital President, Family Planning Association	10/06 & 10/07	
Mrs. Marty Brittel	Pres. Caribbean Family Planning Association (Regional)	10/06	
Mrs. McIntyre	Secretary, Gren. Family Planning Assn.	10/06	
Joan Moore	P.H. Nurse, Goayve	10/06	
Nurse John	District Nurse Home Salon	10/06	
Mrs. Alexander	Administrator, Mental/Geriatric Hospitals	10/07	

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OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Herbert Preudhomme	Acting Prime Minister-Health & Housing	10/04	Courtesy call
Miss Gloria Payne	P.S., Planning, Development & Training		
Mr. Robinson	P.S., Health		
Dr. Leonard Comissiong	C.M.O.		
Mrs. Philbert	General Hospital Medical Records	10/07	
Dr. Noel	Ob/Gyn		
Mr. Palmer	Project Manager, Mardi Gras		
Mr. H.G. Roberts	Water Commis, Project Mgr.		
Mrs. Norma Lake	Minister of Health Services		

Because Grenada has been independent for less than four years, it is not possible to assess past performance in the control of health care expenditures. Personnel costs, and in particular hospital personnel costs, which are 57% of total personnel expenditures, appears to be the area where improved management would be most beneficial. Expenditures for Health Care in the private sector do not play a significant role in the health care system of Grenada. The 22 doctors who maintain a private practice use public hospitals, x-ray and laboratory facilities. There are 3 dentists in private practice and no nurses. Doctors and dentists employ clerical help who they often train as assistants.

Capital expenditures are estimated at EC\$1,553,600 for 1976. Of this, \$1.5 million is authorized for the completion of a Caribbean Development Bank low-cost housing project. An additional \$83,700 is requested in 1977 for hospital and nursing school equipment. Capital investments in buildings and water systems which will be financed by external aid total EC\$2.29 million (see Table 2, page 176) Of this, \$1.6 million will be spent on low and medium-income housing construction. No major expenditures on hospital or other health facilities are budgeted. The Central Water Commission will expend \$2.65 million in 1977. Capital expenditures for health and housing programs represent 3% of local revenue and 10% of external aid. Most of this represents expenditures for housing (see Table 3, p. 161).

Island: Grenada

I. Health Financing

Most health care in Grenada is paid for by the government. The Ministry of Health and Housing accounted for 14.8% of the total governmental recurrent expenditures in 1975 (see below).

	<u>1975</u> ¹	<u>1976</u> ²	<u>1977</u> ³
Total Ministry Health	EC \$3,553,368 ⁴	\$4,341,876	\$5,304,451
As % of Total Budget	14.8%	16.3%	15.0%
Per Capita Expenditure	\$33.84	\$40.28	\$49.20

1. Actual Expenditure - provisional
2. Approved Estimate
3. Estimate
4. Exchange Rate: U.S. \$1.00 = 2.65 EC\$ (Oct. 77)

Source: Government of Grenada, Estimates of Revenue and Expenditure for the Year, 1977.

The Ministry of Social Affairs, Community Development and Cooperatives spends EC\$124,000 for a variety of health-related social welfare programs. Housing expenditures total only EC\$1,700 (one Housing Officer, one Planning Inspector). This is less than one percent of the combined budget for Housing and Health.

Revenues accrued by the Ministry of Health include hospital fees, (the hospital has free wards and private rooms for which EC\$15.00 per day are charged) x-ray fees, laboratory fees and other miscellaneous charges. (See Table 2, page 5 of Budget). These fees will cover only 1.8% of recurrent expenditures in 1977. Over half of revenues are from hospital fees and accounts receivable are reported to be consistently high.

Personnel costs accounted for 53% of recurrent expenditures in 1975 and are expected to increase to 57% of expenditures in 1977.

Island: Grenada

The general physical state of hospitals is poor to terrible at specialized hospitals. Some health stations have been recently reconstructed and all are in good condition.

H. Pharmaceutical System

There is no national testing or licensing for drugs. There are 11 private sector pharmacists that import and distribute their own drugs without controls. By law, pharmacists are not permitted to give injections, however, many do so.

In the public sector, the Supply Department does all ordering. Over 85% of both drugs and equipment are ordered through the Crown agents in London. Orders are placed on the basis of prior years use and special requests. Supplies go from a central point to hospitals, centers and then to stations. Dispensers accompany the District Medical Officer to clinics and compound required drugs as well as dispense pre-packaged items. Dispensers are trained through an apprentice program. Two "O" levels are required for the program, English and Mathematics.

Funding for supplies appears to be more ad hoc than planned. Most of the control and choice is up to Crown Agents who charge 12%. Many delays are experienced in receiving supplies from Britain and Europe. A few items of choice are bought directly. The transportation system is not centrally controlled. There are fewer than 4 vehicles for the Ministry and hospitals generally. Others belong to the Public Health Inspectors. A plan for a national governmental garage has been made, but to date, all repairs are done on an ad hoc basis at the Ministry of Public Works facility. No routine maintenance is practiced.

Island: Grenada

Clinical Chemistry
Serum Amylase
Blood Sugar: Glucose Tolerance Tests
Blood Urea
Serum Phosphatase
Serum Transaminase
Serum Protein
Serum Calcium
Serum Uric Acid
Serum Bilirubin
Serum Cholesterol
Liver Function Tests
Comprehensive Urine Analysis
C.S.F. Analysis
Tests for Occult Blood

In 1975 there were 7,546 hospital admissions recorded and 7,549 discharges and deaths. At the hospitals, 203 deaths occurred and of these, 79 occurred within 48 hours of admission.

Staff at the general hospital, St. George's is 8 physicians, 85 nurses and 114 support personnel. For all general hospitals, staffing ratios are one R.N. per 4.4 beds, one assistant nurse per 1.7 beds and one maid per 12 beds. This high personnel/patient ratio is caused by government/civil service policies of full employment. The ratio, in turn, causes an annual personnel cost of approximately \$3,000 per bed in a general hospital.

The maintenance unit is located at the St. George's general hospital, but has responsibility for maintenance and minor repairs for all health facilities. Major repairs and construction are the responsibility of the Ministry of Communications and Public Works.

Maintenance staff consists of 21; 4 electricians, 3 plumbers, 4 carpenters, 4 painters and others. No engineer or equipment specialist. The majority of equipment is in a bad state. Most is of Canadian or British manufacture

Bed Occupancy (1975)

<u>Services</u>	<u>Rate</u>
Medical	70%
Surgical & Gynecological	97%
Pediatric	37%
Psychiatric	88%
Ophthalmology	23%
Obstetrical	107%
Bassinets	<u>62%</u>
Total	74

Laboratory Tests Performed in the
Laboratory at the General Hospital

Hematology

Complete Blood Count

E.S.R.

Platelet Count

Reticulocyte Count

Prothrombin Time

Blood Grouping and Cross Matching

L. E. Cells

Sicklings

Semen Analysis

C.S.F. Cell Counts

Bacteriology

Routing Cultures and Sensitivities

Serological Tests

Parasitology

Agglutination Tests

Microbacterial Tests

Fungi Investigation

Island: Grenada

DATA AVAILABILITY

Title of Document/Information

Proposed Physical Area Development Strategy, 1977-1990. Prepared for Government of Grenada by U.N. Physical Planning Unit in Association with the Ministry of Communications and Works

Source

Prime Minister's Office

Date

June, 1977

Contents (See Outline)

- I Objectives of Study
- II Survey of Existing Conditions and Trends (Geography, Demographics, Economy, Social)
- III Analysis of Physical Factors of Area Development and Proposals for 1990 - National Development Policy & Projections, includes Agriculture, Tourism, Industry, Housing, Education, Health, Water, Other Utilities, Environment
- IV Proposed Development Strategy - all sectors
- V Preliminary Implementation Strategy for 1990

Island: Grenada

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How Collected and Utilized

Evaluation/Comments (Standardization of Data)

Good summary.

— Some of recommendations that focused on improving system, i.e. hire hospital administrator, set up maintenance, not very good.

— Suggestions for special x-ray unit for TB screening not logical in face of stated decrease TB.

Estimations of GOG ability to support expanded recurring costs have no apparent basis or logic.

Island: Grenada

DATA AVAILABILITY

Title of Document/Information

Hospital & Health Services Survey & Recommendations, 1970-80

Source developed location

Mathew, Johnson-Marshael (Architect Firm) contracted by British Overseas Development

Date

1970

Contents (See Outline)

General - Population trends - projections

Description health facilities, general services in each

Recommendations on site selection new facilities both new main hospital and expanded insiting stations

Recommendations on maintenance

Estimated costs - estimations of future economic foundation of additional costs

Island: Grenada

DATA AVAILABILITY

Title of Document/Information

Engineering & Economic Feasibility study - Grand Anse-Morne
Rouge Sewerage Project

Source

Prime Minister's Office - prepared by UNDP
Project No. Grn. 72-002 and PAHO/WHO
Project No. Grn. 2102

Date

January, 1975

Contents (See Outline)

- Environmental Sanitation - Excreta Disposal
- I Summary, Scope of Report - Team Visit 1973
- II General-Location, History, Geology, Drainage, Soils, Economic, Population, Infrastructure
- III Description of Project Area
- IV Existing Development and Population
- V Future Development
- VI Sewage Collection System
- VII Proposed Sewer System
- VIII Treatment and Disposal
- IX Project Program and Establishment
- X Financing-Method, Op. Exp., Total Revenue Required
- XI Management and Administration

Island: Grenada

How Collected and Utilized

Collected mainly by Distric Medical Offices and hospitals. Actual utilization unclear.

Evaluation/Comments (Standardization of Data)

A good effort - 1970 was prior to independence and some data/ services no longer the same. Problems appear same.

Island: Grenada

DATA AVAILABILITY

Title of Document/Information

Draft National Health Plan

Source

Dr. Leonard Commisong, Chief Medical Officer

Date

September 1970.

Contents (See Outline)

Summary of conditions 1970 including basic facilities, manpower, utilization plus plans for future (plans general, not detailed in implementation) financing plan to rely on external assistance with some savings through internal efficiencies outlining costs.

Island: Grenada

How Collected and Utilized

Collected from weekly reports of facilities and chief providers. Also from vital statistics registrar's office which is part of Ministry of Health.

Utilization appears to be nil.

Evaluation/Comments (Standardization of Data)

Data fairly reliable, not very detailed. Sufficient to give idea of services, trends for future planning. Not used in such a way.

Island: Grenada

DATA AVAILABILITY

Title of Document/Information

1975 Annual Report of Ministry of Health

Note: Report for 1976 not completed.

Source

Ministry of Health

Date

January, 1976

Contents (See Outline)

- 1) Draft Health plan
- 2) Description of control and research projects
- 3) Data on Hospital Services, District Medical Services, Dental, Psychiatric, Nursing, Environmental Health
- 4) Epidemiological Surveillance
- 5) Vital Statistics

Island: Grenada

How Collected and Utilized

Evaluation/Comments (Standardization of Data)

Physical facility development is based primarily on the analysis of demographic data with little or no analysis of utilization, operating costs, or other requirements.

Island: Grenada

DATA AVAILABILITY

Title of Document/Information

A Plan for Water Supply Development in Grenada

Source

Government with PAHO consultants

Date

1968

Contents (See Outline)

- 1) Description of situation in 1965 including organization, rates, pipes, maintenance, water treatment and quality
- 2) Proposal for development, 1965-1990. List of projects in seven areas and estimated costs.

Island: Grenada

How Collected and Utilized

Collected by consultants and water commission people - has formed basis for requests and priorities given to water supply projects under CIDA and CDB funding.

Evaluation/Comments (Standardization of Data)

Through detail - largely still valid

Island: Grenada

DATA AVAILABILITY

Title of Document/Information

The Water Supply Act, 1969 (Act 23 of 1969)

Source

Grenada Government (Mr. Noel, Water Commission)

Date

1969

Contents (See Outline)

Establishment of Water Commission
Officers
Duties and Powers
Transfer of Property and Personnel
Establishment of Water Areas
Financial Provisions
Funds
Submission of Annual Reports
Private Water Services
Catchment Areas
Acquisition of Property
Construction of Additional Waterworks
Wells and Boreholes
Miscellaneous

Island: Grenada

How Collected and Utilized

Review

Evaluation/Comments (Standardization of Data)

This is the principal legislation for the development and control of water supply.

Island: Grenada

DATA AVAILABILITY

Title of Document/Information

Nutritional Status of Young Children in Grenada

Miguel Gueri, Medical Nutritionist

Caribbean Food and Nutrition Institute

Source

CFNI

Date

published April, 1976

Contents (See Outline)

1. Weight for Age
2. Weight at Birth
3. Hospital Admissions
4. Haematology
5. Intestinal Parasites
6. Food Intake

Island: Grenada

How Collected and Utilized

1. Examination of cards at 28 children's clinics for 1975 and the first three months of 1976 in six clinics (21.4%) with a total of 1,052 children.
2. Children living in three small villages in the west whose houses have been randomly selected for a study on nutrition, anemia and intestinal parasites carried out in 1975.

Evaluation/Comments (Standardization of Data)

- Gomez
- 1) Weight for aged
 - *2) Percentiles for weight and length - birth
 - 3) Child health record card
 - 4) Record of immunizations
 - 5) Cost of energy and protein - Grenada, October 3, 1975
(cost in dollars per pound for calories and protein for foods in five major food groups containing foods commonly eaten by Grenadians.

Focus: Only those children aged less than five years were considered for purposes of study.

*From Stuart & Stevenson in Nelson's Textbook of pediatrics.

COUNTRY SUMMARY

I. Perceptions of Key Actors

A. Policy Goals

Development of a National Health Insurance system with polyclinics in rural areas. A referral system through the clinics will force the greater use of outpatient facilities. Residential facilities for mentally handicapped children.

B. Problem Areas (Their evaluation of health situation)

Solid waste disposal, water supply quality, transportation, vehicles for emergencies, staff travel between facilities and transfer of patients from one facility to another, collection of waste matter, the rising cost of medical care, particularly of pharmaceuticals and hospital-based care.

C. Nature, Scope, Intensity of Current System

Current system is dominated by the Queen Elizabeth Hospital, which provides about 50% of outpatient public health care and 50% of both public and private inpatient care. A small number of public clinics provide preventive care for the general public and curative care for the indigent. Private practitioners provide both general practice and specialist services, often in connection with the Queen Elizabeth Hospital.

Environmental sanitation services provide pit privy construction, pump septic tanks and pits when needed, for a small fee, and collect garbage. Service throughout the island appears to be fairly good. There is increasing need for long term care facilities, for the

Island: Barbados

handicapped as well as for the geriatric cases. Average outpatient visits per year per capita are 2.7.

D. Priorities

The development of the national health system will determine many of the priorities of the next few years. Studies (morbidity in private sector) of the type of services needed as well as the best way to provide them (including analysis of financing mechanism for the system) will probably dominate the MCH efforts.

E. Constraints to Reaching Goals and Priorities

A more concerted effort to develop an overall plan must be made if the new system is not to continue the patchy, uncoordinated activities of the current system.

F. Areas where AID Assistance can be most useful

Solid waste disposal.

Island: Barbados

II. Non-Governmental Activities

A. Other Donors (For each donor discuss the nature, magnitude, timing, and duration of their involvement)

IDB - sewage treatment plant for Bridgetown area. \$136 million U.S. to be completed by 1980 (commencing April, 1978).

PAHO - fellowships, technical assistance

Peace Corps - occupational therapist, various health-related volunteers

EDF - construct and furnish multi-purpose clinic

UNDP - financial and technical aid for pit privy construction

UNFPA-IPPF - family planning assistance

CDB -

CIDA - CUSO

B. P.V.C.s (for each, discuss the nature, magnitude, timing and duration of their involvement)

Project Hope - gives continuing technical assistance in health programs.

Barbados Family Planning Assn (est. 1955) - 30 locations for distribution of contraceptives. Referrals to hospital for sterilizations, pap smears available free. 25 MD's participate.

- (a) Child Health Committee - 14 clinics for pre-school children - health education, immunizations, food supplements (4000 children approx)
- (b) Barbados R.N. Assn. - visits to schools and homes to provide general nursing care

Island: Barbados

- C. Private Indigenous Sector (Discuss nature, magnitude, and impact of their role in total health sector activities)

Catholic Hospital - St. Joseph's, in St. Peter's parish, 100 beds

Private clinics - 23 beds

Diagnostic Center & Hospital, laboratory and radiological services

III. Data Availability (Quantity and Quality)

A. Demographic

The Annual Report of the Chief Medical Officer for 1976 provides specific data on total population, population by age groups, and sex, total number of births, crude birth rate, total number of deaths, crude death rate and rate of natural increase. Information on marital status, literacy, and rural/urban population distribution was not given. Density was calculated at 1,490 per square mile.

Overall data availability and quality, with some questionable changes in population age structure over time, were more than adequate.

B. Health Status Indicators

Extensive data are available in the CMO Annual Report on several categories of health status indicators:

- mortality rates by age and cause
- stillbirth, neonatal and infant mortality
- maternal mortality
- hospitalization and outpatient utilization rates by cause
- malnutrition cases admitted to Nutrition Centre by grade (Gomez)
- total number of malnutrition cases reported.

Although the data appear to be very complete, there is no way of evaluating the quality of the information system or the level of underreporting from the private sector.

Outpatient services in clinics are aggregated so that it is not possible to determine differences in activity levels.

Malnutrition

Current nutrition program started ten years ago. Overcrowded beds, cross infections in the children's ward at Queen Elizabeth's Hospital highlighted the severity of the problem along with a survey conducted by Dr. Frank Ramsey (pediatrician) which determined the magnitude of the problem. Results of his survey revealed that malnutrition, bronchitis and gastroenteritis were the three primary causes of hospital admission for infants and pre-school age groups. Hospital treatment of these problems proved futile and in 1965 it was decided to return the children to their communities and treat them there. This led to the first phase of a three phase program which extended over a ten year period.

The third phase, the pre-school child national nutrition survey, was completed in 1974 and those children who were underweight for age were given special treatment at the nutrition center or referred to the nearest health center.

The current medical reporting system requires reporting of 1st, 2nd, and 3rd degree malnutrition. Obesity is also reported. A 1969 survey revealed that 16.5% of children surveyed suffered from 1st, 2nd, or 3rd degree PCM. By 1975 this had declined to 10.2%. More recent results (1977) indicate in excess of 7% PCM. The primary focus of the program is PCM and anemia in children. Little attention is given to adults or geriatrics. The applied nutrition program includes:

Island: Barbados

- early childhood education program initiated in 1975 to provide intellectual stimulation for nutritionally deprived children.
- education a) community nutrition education b) mass media and postal charts
- supervision of dietary services in institutions
- continuation by nursing staff of 1967 program to combat the problem of PCM in infants and pre-school children
- continuation of efforts to grow vegetables and livestock, dental health, family planning, environmental sanitation and consumer education

For 1976, hospital admissions for PCM children declined by 30.1% and patient-days by 34.1% as compared to 1975.

Food consumption patterns and food availability are reviewed and analyzed within the overall framework of the applied nutrition program.

C. Administration and Planning

As stated in the CMD's Annual Report, the Ministry of Health and National Insurance has the responsibility for providing health care services to the entire population.

Administratively the Ministry is headed by the Minister, a member of Parliament. Operational and financial responsibility is through the Permanent Secretary. The Chief Medical Officer has technical responsibilities for the delivery of health services, while the Senior Assistant Secretary is in charge of the housekeeping aspects of the Ministry. The Planning and Research Department, directly under the P.S., provides overall direction for

Island: Barbados

health planning and project identification, preparation, and evaluation. A fairly recent organization chart details the existing lines of authority and areas of programmatic responsibility.

Supporting services, such as supply, maintenance, and laboratory services are centralized within the Ministry and not overly dispersed to other Ministries.

The Manual for Health Personnel for Parental and Child Health briefly outlines the administrative jurisdictions and service responsibilities of the Ministry of Health and National Insurance.

Health planning, as a viable part of the administrative process, is being promoted within the Ministry, but as yet, is not well established.

A detailed proposal which outlines the responsibilities and staff of the Department of Health Planning has been approved by the Minister and is now awaiting action in the Prime Minister's Office.

Detailed functioning of the information system is not clear, although it is known that all data is centralized within the Department of Research and Planning. The way this information system relates to other elements of the top administration is not well documented.

No written information about governmental health policy or goals was made available to the team. It is known that the Government is committed to the development of a compulsory national health insurance plan. In summary, there appears to be some movement away from the colonial system towards a more functionally-oriented administration of health care.

D. Health Services

In-patient health care is provided primarily by the public sector, while outpatient services are provided almost equally by the private and public sectors. It is important to note that Barbados serves as a specialized reference center for much of the Eastern Caribbean.

The precise extent of service coverage is unknown although it does appear to be almost universal. For example, 98% of total births were institutional in 1976.

Comprehensive data on services and utilization rates are provided in the CMO's Annual Report for 1975.

Quality and efficiency of services can only be evaluated indirectly from some of the statistics presented in the Annual Report. Personnel ratios and average length of stay would appear to indicate fairly high quality care and efficient services - particularly if compared to other Caribbean entities.

Demand for services can only be deduced from utilization data in this case.

Since a fairly high proportion of the total governmental recurrent budget (19%) is devoted to health, (including environmental sanitation) it can probably be said that the Government does give a high priority to the health sector. However, within health there may be too much emphasis on curative care.

Specific information on programs offered by the Ministry can be found in the CMO's Annual Report for 1976 and A Manual for Health Personnel for Parental and Child Health.

Island: Barbados

Overall, there is a wealth of data on services available. Certainly, the best seen to date in the Eastern Caribbean.

E. Environmental Sanitation

As noted in the MOHW Annual Report, 98% of urban and 70% total population are served by house connections. Treatment is considered good.

Sewage disposal is inadequate but system to be constructed with IDB assistance will be in place by 1980 and is expected to handle problems for the entire island. Activated sludge treatment with treated effluent pumped into ocean.

Refuse collection is seen to be a problem throughout the island, particularly in rural areas where service is weekly and considered inadequate. Information is based on conversations with MOHW officials. Extra trucks are needed. The maintenance and repairs are done by the E.S. division which is less costly than commercial repairs.

F. Manpower

But for a few categories of health personnel, Barbados is uniquely fortunate among Eastern Caribbean countries, in that there are sufficient numbers of appropriately trained health and allied health personnel.

The situation in 1976 revealed the following number of health and allied health personnel (with rate per 10,000 population): 166 doctors (6.7); 17 dentists (0.7); 5 hospital administrators (0.2); 8 veterinarians (0.3); 1 sanitary engineer (0.04); 1 health educator (0.04); 4 social workers (0.2); 1 nutritionist-dietitian (0.04); 450 nurses (including midwives)

Island: Barbados

(18.2); 35 public health nurses (1.4); 146 psychiatric nurses (5.9); 41 midwives (1.7); 304 nursing assistants-trained (12.3); 84 untrained nursing assistants; 17 radiographers (0.7); 11 X-ray technicians (0.4); 43 laboratory technicians (1.7); 84 dispensers (3.4); 7 physiotherapists (0.1) 6 dental auxiliaries (0.2); 5 public health engineering assistants (0.2); 40 public health inspectors-qualified - 16 partially qualified - 28 unqualified (3.4); 9 statistical and medical records personnel (0.4); and 19 statistical and medical personnel-untrained (0.8).

Training

General admission requirements for nurses (basic training) is a G.C.E. 'O' level in at least 3 subjects, followed by 3 years of university study.

Midwifery (trained nurse); requires G.C.E. 'O' level in 3 subjects plus S.R.N. or R.N.; followed by 1 year of study. Whereas, the untrained nurse midwife requires a G.C.E. 'O' level in 2 subjects.

Nursing Assistants: Basic requirement is a school leaving certificate plus one year of study which is generally true of most paramedical applicants throughout the region.

Nursing: mental hospital: basic requirement is a GCE 'O' level in three subjects. followed by 3 years of study.

G. Health Facilities and Equipment

Q.E. Hospital serves as a referral center for the E. Caribbean area because of the extensiveness of the facility (563 beds) and the elaborate equipment. The labs do cytology and chematology which are not generally available on other islands. Radiotherapy for cancer is also available.

Outpatient services at the hospital account for 50% of island activity. Outpatient clinics elsewhere on the island are underutilized. They provide limited curative and preventive services.

H. Pharmaceutical System

Projection of needs is made in January. Stocks are ordered with least time for shipping, though purchase and shipping department delays in placing orders sometimes force the purchase of drugs through local drug agents. Government imports duty free. Duty is added to price of drugs purchased commercially. Very little compounding is done by the hospital in the interest of time (staff supply for this is abundant). Generic names are used sometimes, but quality problems with some orders have resulted in reversion to brand name ordering. There is a drug manufacturing plant in Barbados.

I. Financing

Revenues of health system are primarily general revenues. Hospital charges for the private beds (10% of capacity) bring in only Bds. \$450,000 annually. Accounts receivable are \$350,000 currently.

The health budget totals Bds. \$37.3 million and is summarized in the Government of Barbados estimates for 1977-78. It represents 17% of the total Government recurrent budget and amounts to an expenditure of approximately \$150 per capita.

The budget process is not program budgeting. Each department of MOHW submits its budget to the controller and discusses it with the controller, the Minister and the technicians of the department. The Establishment division of the Budget Office decides staffing levels, based on the activities of each department. The Minister of Health, Minister of Finance, (Prime Minister) P.S. Finance and Controller services meet to approve the budget.

The P.M. passes it to the Cabinet and then to Parliament for approval.

Supplemental appropriations are requested through the same process.

Quarterly reports of expenditures monitor spending. Each department's daily vote book (daily ledger) shows cash position. Private sector activities of 166 MD and some nurses must generate a considerable amount of business. Incomes of M.D.'s are unknown, but reportedly average up to 10 times the P.H. salary.

J. Socio-antropological Aspectsⁿ

The citizens of Barbados, instead of being reluctant to utilize physician and hospital-based medical care, use it almost to the exclusion of other health services. The government recognizes the problem and the expensiveness of the medical care system which must be maintained to satisfy this demand. Plans are now being made to try to reverse this demand for hospital-based services. Under the national health insurance scheme, only referrals from other clinics or M.D.'s would guarantee admittance to the hospital except for emergencies. It remains to be seen whether the demand for health care can be modified this way.

K. Other (including extrasectoral impacts on health)

Island: Barbados

IV. Evaluation of Actor's Perceptions vs. Situational Analysis

A. Does health policy, goals, and priorities match known health needs?

There is concern with the extent to which the current public/private mix of health services meets the needs of the public and with cost containment.

This is articulated in the plan to establish a rational health system.

There is lack of recognition of the current inadequate use of planning and administrative support within the health system. Improvement will be crucial to the development of the national health service.

B. Is there enough information available to justify programming?

Yes, in most areas.

V. Recommendations for A.I.D.:

Assistance with planning/management areas as these can be coordinated with the GOB development of a national health system.

OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Harris	Minister of External Affairs	10/17	Liason for Team.
Mr. Rochth.	Minister of Planning	10/17	Economist of Ministry of Planning
Mr. Archer	Water Authority	10/17	Not active participant in meeting.
Mr. Etheidge	Engineer-MOH	10/17	Chief Public Health Engineer - Water
Dr. H. Murray	Acting CMO	10/17	Supply, transport specialist
Mr. Howell	P.S. Health	10/17	
Mr. James Williams	Hospital Director	10/18	Mr. Williams is Director of the overall operations of the hospital.
Mrs. Didler	Asst. Hospital Administrator.	10/18	Mrs. Didler is the Administrator of outpatient services (services offered are attached to Form 3).
Mr. Neville Widden	Senior Lab. Technician	10/18	Mr. Widden is an assistant administrator for laboratory services at the hospital.
Mr. Alden Howard	Chief Public Health Engineer	10/18	Mr. Howard is general administrator of the Environmental Sanitation Services of the MOH. He oversees the work of the solid and liquid waste disposal services.
Mr. David Alleyne	Acting Financial Controller-MOH	10/19	Charged with preparation of the Annual Budget (Capital and Recurrent) and quarterly appropriation accounts. Also prepare any necessary requests for supplemental appropriations.
Ms. Billie Miller	Minister of Health	10/17	Dynamic politician.

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OFFICIAL CONTACTS

Name	Position	Date of Contact	Comments
Mr. Cortez Nurse	Senior Health Planner, Minister of Health	10/18	He is the leading advocate of increased movement towards rational health planning within the Ministry of Health. He also appears to be in the vanguard of those moving towards more functional administration of the health system. He still sees a great deal of resistance from the doctors in the development of national health insurance.
Dr. Hoyos	Private doctor	10/18	<p>Dr. Hoyos is a private M.D. who has been sympathetic to the Government's movement towards national health insurance. Moreover, he has represented Barbados in PAHO's primary health care conferences. He sees quite a bit of overlap in private and public sectors.</p> <p>His view of major problems:</p> <ol style="list-style-type: none"> 1. Cost of drugs 2. Population control-39% of population is less than 15 years of age. There is a real need to work through a variety of sectors to combat population growth. Also a need for greater patient participation. <p>Feels that programs are there but need more infrastructure to implement.</p> <p>Doesn't see malnutrition as a major problem.</p> <p>Recognizes that present allocation of funds is inappropriate</p> <p>Generally, he could be classified as a physician who is very aware of the public health needs of the island.</p>
Gordon Haynes Grace Burke, B.N.	MOI Transport Foreman PAHO		In charge of deployment of sanitation workers and equipment. Nurse Advisor

Island: Barbados

DATA AVAILABILITY

Title of Document/Information

Study of Private Health Care Sector

Source

Dr. Hoyos

Date

1977

Contents (See Outline)

Narrative description of the physician's role in the private sector and the coordination between the public and private sectors.

Island: Barbados

How Collected and Utilized

Evaluation/Comments (Standardization of Data)

Little data included, source of data unknown. Report is based on observations by physicians in practice in Barbados, some documented in their own medical records.

Island: Barbados

DATA AVAILABILITY

Title of Document/Information

Schedules of Personal Emoluments

1976-77

Source

Ministry of Health and Welfare to USAID

Date

1976

Contents (See Outline)

Authority for personnel expenditures by Ministry and job category

Summary by Ministry

Island: Barbados

How Collected and Utilized

Evaluation/Comments (Standardization of Data)

Does not give actual positions filled.

Island: Barbados

DATA AVAILABILITY

Title of Document/Information

Estimates 1977/78
Revenue and Expenditure

Source

Ministry of Health

Date

1977-approved

Contents (See Outline)

Capital and Recurrent expenditures for Barbados government.

Island: Barbados

How Collected and Utilized

Budgets prepared by each Ministry as part of annual process.

Parliament approves budget, makes modifications, etc.

Evaluation/Comments (Standardization of Data)

Summary of recurrent and capital expenditures for Government of Barbados. 1977/78 with Approved Estimates for 1976/77 and Actual Expenditures for 1975/76. Fiscal year begins April 1.

Island: Barbados

DATA AVAILABILITY

Title of Document/Information

Annual Report of Chief Medical Officer

Source

Ministry of Health and Welfare

Date

1976

Contents (See Outline)

Population, morbidity, mortality, services provided by disease category, summaries of environmental health activities, supporting services (labs, epidemiological surveillance) summary of the health infrastructure, personnel, facilities, finance, legislation and research activities of voluntary agencies.

Island: Barbados

How Collected and Utilized

Summary of monthly reports. Use unknown.

Evaluation/Comments (Standardization of Data)

The report is very complete. It provides almost all of the information needed on the annual activities of the health system.

Island: Barbados

DATA AVAILABILITY

Title of Document/Information

Manual for Health Workers

Source

CFMI published by National Nutrition Center, Barbados

Date

1976

Contents (See Outline)

Training Manual for:

General Care

Maternal Care

Infant, Child & Adolescent Care

Island: _____

How Collected and Utilized

Evaluation/Comments (Standardization of Data)