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HEALTH AND DEVELOPMENT
IN BELIZE
A SECTOR ASSESSMENT

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Foreword

A. Objectives and Purpose of the Health Sector Assessment

The objective of this assessment is to provide the Government of Belize and USAID with a thorough analysis of the status of health services, the morbidity and mortality patterns, and current and planned intervention programs in its health sector. Recommendations on the direction and pace of development in this sector should include areas of focus for USAID, based on AID policy and areas of comparative advantage.

The specific purpose of the sector assessment is to assist the USAID mission and the government to develop a USAID five-year plan for the 1992-1997 period which addresses needs in the health sector and which is congruent with United States Government and GOB health policies and strategies.

B. Preparatory Studies

This health sector assessment is part of a series of innovative interventions set in place by USAID/Belize health staff. In March 1986, through the State University of New York at Stony Brook (SUNY), the first exploratory report was completed. This led to a detailed examination of costs and financing patterns in the Belize health care system by SUNY in a report entitled "Financing and Costs of Health Services in Belize." 1987. Late in 1987, the REACH Project sent out a team to design an outpatient clinic for the Banana Control Board in Big Creek. In February 1988, the Consultative Group on Development conducted a workshop in San Pedro on health care financing for various members of the government and the private medical sector. In each of these assignments, as in the present sector assessment, USAID/Belize had access to a consistent set of consultants (Susan Raymond and Jeremiah Norris from the Consultative Group on Development) to provide continuity from one step to the next. The integration of these studies with this sector assessment should provide USAID with an informed body of knowledge for programming during the period 1992-1997. Belize is a small country. In many ways, its size contributed to the success of these studies and sector analysis. Despite the fact that the size characteristics of the country may not resemble those of most nations in the developing world, its changing epidemiology and need to address cost issues are precisely those of its sister states in Latin America, Asia, Africa and the Middle East. Given the scale of donor resources available, and the receptivity of the government, donors may well ask themselves "if we can't do effective health programming here, where then can we do it"?

C. The Team

The team arrived in Belize on November 9 and completed its field work on November 23. From that date onward, the team worked in Washington, D.C. analyzing the data and writing the final assessment.

The team members are:

Jeremiah Norris, Team Leader, Consultative Group on Development, Washington, D.C.
Dominique Colon, Epidemicologist, Medtronic, Inc., Washington, D.C.
Alan Fairbank, Ph.D., Economist, Congressional Budget Office, Washington, D.C.

In addition, Susan Raymond, Ph.D., who was the principal investigator on the SUNY Health Care Financing Study and co-designer of the outpatient clinic at Big Creek, served as a reviewer for the team on this sector assessment.

Throughout all of these studies, the Consultative Group on Development was pleased to have the active support and participation of Sam Dowding, USAID Health Officer, Belize City. From the first exploratory visit in 1986 through this sector assessment, Mr. Dowding set in place and guided a process which may yet lead the government to a rationalization of its national health care financing system.

D. A Note of Concern

The team has gone to some length to express its concerns on the influence of the donor community in Belize's health sector. Although the level of donor funding is high by any standard of comparison, Belizean authorities feel, not unjustly, that only a small portion of these resources actually redound to their direct benefit. The largest share of donor funds is for the upkeep and maintenance of resident advisors/consultants (excluding capital development).

Foreign donors in Belize have generally sought to design their assistance programs so as to make one or more of three types of contributions:

1. To transfer financial resources to support a particularly important economic sector that could not get financing from alternative sources;
2. To encourage more effective use of the recipient's own resources in the sector being assisted; and
3. To convey insights and knowledge gained in other developing countries to the country being assisted.

Naturally the potential degree of importance of each of these contributions varies according to the sector in which assistance is being given. For the health sector, however, there are special considerations applicable to potential donor contributions. First, the social services characteristics of the health sector which make

it impossible to objectively determine cause-and-effect linkages between health impacts and particular levels of expenditure; and second, the desire of donors to combine promotion of economic development with redistribution of welfare makes them willing to finance projects whose results are mainly qualitative social or public goals.

In view of the particular multidimensional characteristics of the health sector, then, it does not seem to present justifiable opportunities for donor contribution through the transfer of resources. In the first place, it is impossible to determine the optimal or appropriate level of resources that any country should devote to health. To be more specific, it is not possible to say what level of recurrent spending would be effective in achieving a particular health status for any given country, nor what upper limits to potential future operating costs might constitute a legitimate boundary to justify current investments in health system capacity.

So far, it has not been possible to accurately measure health effects that can be attributable to given levels or patterns of investments. However, there is some promise that cost-effectiveness analysis might be profitably applied to particular health programs and projects to determine which activities have the greatest impact on certain elements of health, say, the control of a particular disease relative to costs. The use of this methodological tool does suggest opportunities for donors to be most helpful in their contributions in the latter two areas: encouraging more effective use of the recipient's own resources and conveying insights and knowledge about health systems development in other developing countries.

Belize has an infant mortality rate lower than New Haven, Connecticut. For donors, this indicator is suggestive of a set of complex, emerging health problems that are now faced by the entire population. They will not yield to any amount of resources targeted to any one special sub-set of problems. In microcosm, these same problems have a commonality in every Third World country, with the exception that in Belize donors have an opportunity to demonstrate how to rationalize the national financing and organization of health services delivery, both curative and preventive, public and private, in an equitable manner.

I. BACKGROUND: HEALTH AND DEVELOPMENT IN BELIZE

A. The Belize Economy

Belize is a country with only 175,153, 56% of which resides in urban areas. The country has the lowest population density in Central America, and one of the lowest in the world: 7.4 persons per km² (World Bank, 1988). Its annual population growth rate of 2.0% (1976-1983) is modest, relative to the economic potential of the country and its ability to sustain a larger population, and has resulted mainly from the emigration of a considerable number of Belizeans to the U. S. With a continued high birth rate (36 per 1,000), a declining death rate (4 per 1,000), and decreased emigration, the prospects are for more rapid population growth in the future.

Belize represents one of the most open economies in the region, with minimal government restrictions and ownership of economic production mostly in private hands. GNP per capita is relatively evenly distributed, and both local and foreign private investment dominate the economy. Public sector activities represent 25% of GDP (World Bank 1988).

Since 1984, Belize has benefited from an upturn in exports, important new foreign investment, and expanded international economic assistance, all of which have given a boost to the national economy. Moreover, duty-free access to U.S. market, via the policies of the Caribbean Basin Initiative, has helped to stimulate investment and to expand the nature and volume of exports (CCAA 1986). The World Bank expects exports to rise from 55% of GDP in 1987 to 70% of GDP in 1990.

The major sources of revenue to the Belize government are import duties and direct taxes (2). Taxes on foreign trade provide more than 50% of total revenue; import duties are based on the Caricom Common External Tariff system. Direct taxes provide 20% of revenue. The progressive income tax system reaches a maximum of 50% on annual income of B\$60,000 or more.* Private companies pay a flat rate of 45% on income. Land taxes are tied to the type of land, with higher rates assessed for land near publicly-maintained roads or on the coast.

Access to credit, particularly small business credit and/or long-term credit, remains a problem, as does the economy's continued dependence on sugar and citrus exports and its lack of experience program managers in both the public or private sectors. On the other hand, national government finances have traditionally been well

* Exchange rate is B \$2.00 = \$1.00 U.S.

managed. Belize has the lowest debt service ratio in the region -- about 11% of exports. Within the next several years, it is expected to decrease to 7% by the late 1990s as exports grow. By then the country's balance of payments deficit is expected to have fallen to less than 10% of GDP.

The range of investment opportunities in Belize, the government's conscious effort to promote savings and investment, and continued policies of export promotion and high-priority public investment leave most economic observers relatively optimistic about the economic future of Belize compared to its regional neighbors. This potential economic depth and pragmatic flexibility provide the stage upon which the financing of health care costs be carried out.

B. Health Status

1. Introduction

Trends in demographic structure and morbidity/mortality in Belize bode ill for future cost control in the health care sector, and, thus, will have significant implications for health care finance. In the last 10 to 15 years, health-related parameters in Belize have shifted dramatically. While it is true that 46% of the population is under 15 years of age (down from 49% in 1970), the most serious cost implications are suggested by trends at the other end of the demographic pyramid. Life expectancy averages over 66 years, up from 59 in 1970. Average life expectancy at birth for women is 68 years. Statistical corrections for infant mortality result in an average life expectancy in excess of 70 years.

2. Epidemiologic Trends and Projections

Evaluation of Belize's available demographic and epidemiologic data suggests that the health care delivery system will have to provide more intensive in-patient care to meet the needs of a growing aging population, while maintaining the apparent gains made in controlling infectious diseases. National statistics indicate that diseases, chronic and degenerative in nature, are leading causes of mortality and morbidity in Belize. Factors contributing to this emerging trend, now observed in many developing countries, include the following:

- a. A growing elderly population in which chronic diseases are prevalent;
- b. Better control -- and in some cases successful eradication -- of infectious diseases common during childhood; and

- c. Poorer quality data reporting from the rural areas where greater numbers of death from infectious diseases would be expected.

These trends have been noted by at least two other studies, the Pan American Health Organization 's 1985 health care assessment, "Priority Health Needs/Belize" and the Raymond, et. al. report, "Financing and Costs of Health Services in Belize." PAHO stated the following:

"The resulting mortality pattern show a tendency towards one with a predominance of chronic conditions among older age groups. This trend will have important consequences with regards to the future demands upon health services, which are presently geared towards the prevention and treatment of acute conditions, particularly children and mothers. As infectious disease becomes less prevalent, diseases of circulatory system, cancer, accidents, diabetes, etc. will place a heavier burden on the health care system." (PAHO, 1985: 17)

The Raymond report went on to say the following regarding the continuing drop in infant mortality and crude death rate:

". . . These factors will combine over the next 10 years to change morbidity and mortality patterns radically -- with significant implications for costs. Chronic diseases such as cardio-vascular problems, renal diseases, and cancer can be expected to increase, relative to infectious and parasitic diseases, as the population ages and the economy grows. Indeed, heart disease, other chronic diseases (bronchitis, emphysema, cancer and hypertension), accidents and trauma have begun to dominate Belize morbidity and mortality statistics, replacing such conditions as infectious diseases. In turn, these disease patterns will increase the costs of treatment compared to the past, since unit costs are higher for these diseases than for prevention programs targeted at maternal child health problems or for treatment of basic childhood diseases." (Raymond, et al., 1987:6)

Some representatives of donor agencies and members of the Ministry of Health (MOH), however, are reluctant to give credibility to these data. They contend that morbidity and mortality statistics are skewed because of under-reporting from rural areas where infectious diseases are believed to be more prevalent. These

officials are concerned that such trends will be interpreted to mean that infectious diseases are not a problem and that health care programs in the future will focus on treatment of chronic diseases. Thus, the achievements reached in controlling infectious diseases will be imperiled.

Nevertheless, the facts are that demographic data indicate a growing older population more likely to be affected by chronic diseases, and, consequently, this group will require health care services which the delivery system cannot now adequately accommodate. Belize is also becoming increasingly urbanized, with 56% of the population now residing in cities. Thus, even if reporting from rural areas under represents the presence of infectious disease, the reporting accuracy would be unlikely to change overall national rankings of causes of illness and death.

The following will summarize the health status of Belize based on interviews with health officials and review of the available data.

3. Demography

Belize is an independent democratic country located on the east coast of Central America. It occupies 8,870 square miles of land mass, bordered on the south and southwest by Guatemala, north and northwest by Mexico, and the east by the Caribbean Sea. The climate is subtropical. Belize is vulnerable to hurricanes, with the last major one to cause significant damage occurring in 1978.

Belize remains one of the least densely populated countries in the world at 19.9 population per square mile and with rural density at less than 10 per square miles. Its population is diverse with over eight different ethnic groups. These include Creoles (which make up 40% of the total population), Mestizos (33.1%), East Indians, Chinese, Maya, Ketchi, Garifuna, and Whites. Demographic data indicate that Belize has the potential for a relatively high natural rate of increase in the future, especially in view of a growing refugee group. Albeit, with the extremely low population density and aggressive economic policies emphasizing agriculture and industrial investments outside Belize City, the implications of this growth for Belize, even in the medium term are probably not alarming. Table I.1 shows the percentage change in the total population from 1960 to 1997.

TABLE I.1
CHANGE IN POPULATION 1960 - 1987

YEAR	TOTAL POPULATION	% CHANGE
1960	90,505	...
1970	119,934	32.5
1980	145,353	21.2
1987	175,153	20.5
1990	187,200	6.9
1997	223,900	19.6

Source: Population figures for 1960-1987, Central Statistics, 9/88,
and projections for 1990, 1997 from the World Bank

TABLE I.2
AGE-SPECIFIC FERTILITY RATES, 1980 - 1987*

AGE OF MOTHER	YEARS							
	1980	1981	1982	1983	1984	1985	1986	1987
15-19	.1604	.1567	.1462	.1462	.1354	.1304	.1283	.1382
20-24	.3190	.3158	.3027	.2904	.2787	.2638	.2638	.2837
25-29	.2855	.2762	.2596	.2461	.2430	.2415	.2490	.2645
30-34	.2060	.2042	.2010	.1942	.1880	.1813	.1821	.1966
35-39	.1419	.1355	.1263	.1224	.1204	.1248	.1302	.1300
40-44	.0585	.0596	.0553	.0553	.0501	.0476	.0461	.0600
45-49	.0053	.0061	.0071	.0084	.0071	.0067	.0084	.0070
TOTAL FERTILITY RATE/WOMAN	5.8	5.7	5.4	5.2	5.1	5.0	5.0	5.4

* 1987 are provisional data

Source: Central Statistics, 1988

From 1960 and 1980, the population grew by 60.6%, and from 1970 to 1980 by 21.2%. The projected increase in population from 1987 to 1997 is 27.8%.

The age-specific fertility rate between 1980 through 1987, as shown in table I.2, indicates a fairly consistent fertility rate with a slight decrease noted from 1980 to 1986. Health officials involved in family planning and child survival have expressed concern over the increasing numbers of teenage pregnancies. The data, however, do seem not reflect increasing fertility rate among women in the age group of 15-19. The fertility rate for women over 35 in Belize is two to three times higher than those of other Caribbean nations.

The life expectancy at birth is 71.2 years. Death rates have continued to decline to 4.0 in 1986. The infant mortality rate for 1986 was 23.1 per 1,000 -- a figure that compares favorably with some developed countries. (For example, New Haven, Connecticut, in the US, reported an infant mortality rate of 27/1000 last year).

Most sources agree that Belize's population figures do not include an accurate count of the refugees residing within the country. Estimates of that group, comprised of other Central Americans mostly from Honduras and El Salvador, range from 15,000 - 40,000. Fertility rates are assumed to be high among this group, since there is strong incentive to have Belizean citizenship for the offspring.

While the number of refugees entering the country are expected to increase in the near future, Belize has also experienced out-migration. It is estimated that 70,000 Belizeans reside in the United States. Recently, US nurse recruiters have been actively pursuing Belizean nurses attempting to lure them to better paying positions in US facilities. Clearly, future economic conditions in Belize will affect this emigration pattern. If current investment efforts are productive, out-migration of skilled labor may slow. On the other hand, in such professions as nursing, US shortages will continue to bid up prices for qualified personnel irrespective of job opportunities in Belize, and, therefore, encourage migration.

Even though Belize's population is predominantly young, the percentage of elderly is rapidly increasing. Table I.3 presents population data by age and sex for 1980 and 1987. Of the total 1987 figures, 44.5% of the population was under the age of 15, and 33.3% was between 15 and 34 years of age. In 1987, those 60 and older formed 11% of the population, compared to 1980 when they formed 6.5% of the total population. The percentage increase in the 85 and older population in the seven year period between 1980 to 1987 was 118%.

TABLE I.3

POPULATION BY AGE AND SEX
(1980 - 1987)

AGE GROUP	1980			1987			% CHANGE IN TOTAL
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	
0-4	24,310	12,254	12,056	29,122	14,679	14,443	19.8
5-9	22,711	11,488	11,223	25,904	13,104	12,800	14.1
10-14	20,095	10,158	9,937	22,959	11,605	11,354	14.3
15-19	17,478	8,827	8,651	19,858	10,029	9,829	13.6
20-24	12,937	6,652	6,285	16,407	8,436	7,971	26.8
25-29	9,012	4,581	4,431	12,695	6,453	6,242	40.9
30-34	6,832	3,473	3,359	9,383	4,770	4,613	37.3
35-39	5,233	2,660	2,573	6,900	3,608	3,292	31.9
40-44	5,087	2,660	2,427	5,376	2,811	2,565	5.7
45-49	4,651	2,305	2,286	4,638	2,359	2,279	(2.8)
50-54	4,361	2,291	2,070	4,396	2,309	2,087	8.0
55-59	3,198	1,626	1,572	4,069	2,069	2,000	27.2
60-64	2,762	1,404	1,358	3,543	1,801	1,742	28.3
65-69	2,471	1,182	1,289	2,992	1,436	1,556	21.1
70-74	1,595	755	840	2,423	1,147	1,276	51.9
75-79	1,160	550	610	1,788	848	940	54.1
80-84	870	412	458	1,414	669	745	62.5
85 +	590	279	311	1,286	609	677	118.0
TOTAL	45,353	73,617	71,736	175,153	88,742	86,411	20.5

Source: Central Statistics

4. Mortality

Mortality data for Belize are showing decrease in overall death, particularly infant mortality, as well as changing patterns in the cause of death. The principal causes of death for 1986 are listed as follows:

1. Diseases of pulmonary and circulation and heart
2. Diseases of the respiratory system
3. All accidents
4. Diabetes
5. Intestinal infectious disease
6. Disease of the digestive system
7. Disease of the urinary system
8. Cancers of the digestive organs and peritoneum
9. Anemia
10. Motor vehicle accidents

Table I.4 shows death and death rates by sex from 1970 to 1987.

As noted earlier in this chapter, some donor agency and MOH representatives expressed concern that deaths in rural areas -- especially infant deaths -- are under-reported, and, therefore, they consider the mortality data to be dubious. All deaths are registered in Belize and mortality data are collected from the death registrations. Given the population distribution (age and geographic), however, it is unclear how such under reporting (if it exists) could affect national averages. Table I.5 shows the considerable drop in the infant mortality rate from 51.2 per 1,000 in 1970 to 23.1 per 1,000 in 1986.

Epidemiologic information is grossly lacking in Belize. With the exception of malaria -- which is endemic -- there is no sense for population at risk for the ten leading causes of death. There have been virtually no surveillance studies. Although there is an epidemiology function in the MOH (Director of Epidemiology and Environment), there is some uncertainty regarding the responsibilities of that area; several MOH officials expressed varying degree of uncertainty about accountabilities and responsibilities of this position. Clinicians, based on personal practice experience, report treating "many" cases of hypertension and heart diseases, and, thus, believe that the mortality data are representative of actual trends. Clearly, enhancing data collection and implementing a centralized data management system will be helpful in clarifying these views. But, it should be kept in mind, that there are no perfect data -- even health statistics in developed countries have their limitations. Belize's morbidity and mortality data are at the very least indicative of the trends and should not be dismissed. Rather, further analysis should be performed to mitigate these uncertainties.

Table I.4

Deaths and Death Rates By Sex
1970 to 1987

<u>Year</u>	<u>Total Deaths</u>	<u>Total Death Rate</u>	<u>Male</u>	<u>Male Death Rate</u>	<u>Female</u>	<u>Female Death Rate</u>
1970	813	6.8	442	7.4	371	6.2
1971	625	5.1	344	5.7	281	4.6
1972	662	5.4	351	5.8	305	5.0
1973	774	6.2	423	6.8	351	5.6
1974	728	5.7	393	6.2	335	5.3
1975	733	5.7	377	5.8	356	5.5
1976	881	6.7	412	7.2	409	6.3
1977	767	5.8	423	6.3	344	5.2
1978	885	6.5	518	7.6	367	5.4
1979	710	5.1	375	5.4	335	4.9
1980	717	4.9	374	5.1	343	4.8
1981	709	4.7	395	5.2	314	4.3
1982	663	4.3	347	4.5	316	4.2
1983	724	4.6	395	4.6	329	4.2
1984	750	4.6	434	5.3	316	4.0
1985	693	4.2	381	4.5	312	3.8
1986	688	4.0	368	4.3	320	3.8
1987*	691	3.9	371	4.2	320	3.7

* 1987 represents provisional data
Source: Registrar General's Office

Table I.5
 Infant Deaths and Mortality Rates, 1970 - 1987

<u>Year</u>	<u>Total Infant Deaths</u>	<u>Infant Mortality Rates (per 1,000)</u>
1970	228	51.2
1971	156	30.9
1972	167	34.0
1973	209	41.7
1974	214	42.5
1975	222	42.6
1976	241	45.1
1979	223	40.0
1978	215	39.0
1979	209	37.8
1980	180	30.2
1981	160	27.5
1982	135	22.9
1983	140	23.2
1984	151	26.2
1985	122	20.6
1986	142	23.1
1987*	136	20.1

* Data for 1987 are provisional

Source: Registrar's General Office

According to the medical statistics office, 40% of the total deaths among women in the 45-64 age group is due to cervical cancer, a curable disease when diagnosed early. Most MOH officials and donor agency representatives were unaware of this information and expressed surprise at this figure. This information appeared in the 1985-86 Annual Statistics on Health which is prepared by the MOH. However, the Director of the MCH unit and USAID/Belize state that this figure is probably misleading as it is derived from death certificates rather than pathology reports.

Although women are encouraged to have annual check-ups, according to the MOH documents, there are no aggressive cytological screening programs. Donor representatives and MOH personnel pointed to successful screening programs run by the Belize Family Life. But, representatives of the Health Education and Community Participation Bureau (HECOPAE) have said that post-partum follow-up care is a weak aspect of child survival programs. Also, there are no preventive programs geared to women beyond child-bearing ages.

5. Morbidity

The leading causes for hospitalization in 1986, excluding normal deliveries, were the following, in ranking order:

1. Complications of pregnancy and of delivery
2. Diseases of the digestive system (excluding intestinal infectious diseases)
3. Diseases of the respiratory system
4. Intestinal infectious diseases
5. Hypertensive heart diseases
6. Abortions
7. Diseases of the female genital organs
8. Accidents
9. Diseases of pulmonary circulation and other forms of heart diseases
10. Diseases of the urinary system
11. Certain conditions originating in the perinatal period
12. Fractures
13. Diseases of the skin and subcutaneous tissue

Hypertension and heart disease ranked as the primary reason for out-patient visits. Table 6 reveals the number of cases of death and illness from communicable and notifiable diseases in the general population in 1986.

Although intestinal infectious disease rank as the fourth leading cause of morbidity, it appears that Belize has been able to control the incidence of infectious disease more prevalent during childhood. According to the Medical Statistics Office at BCH, in 1986, 68% of the reported gastroenteritis occurred in children under five. Of these, 34% were in the age group of 6 to 11 months and 17% were 2. Table I.7 shows the number of cases of EPI disease in children under five.

An oral rehydration unit at the Belize City Hospital (BCH) is opened to the public during 24 hours and ORT packages are available through the public health nurses in the rural areas. Some rural area residents, however, have complained to physicians that they are unable to access ORT packages.

The MOH, with the assistance of several international donors, including UNICEF (in cooperation with the Government of Italy), CARE, and Project HOPE, has placed strong emphasis on child survival which encompasses various programs in immunizations, or rehydration therapy (ORT), and nutrition and general health education. A 1986 survey of national immunization coverage conducted by PAHO revealed that the national coverage was over 80%. The child survival program's objective was to have 90% national coverage. Table I.8 presents the survey findings.

A major limitation in evaluating child survival programs is the absence of basic data. For example, there is no available information on target populations or population at risk. During the last two years, Project Hope has been working with the Medical Statistics Office at BCH to implement a computer information management system. But due to problems in the computer program, reports on child survival activities could not be made available to the evaluation team.

Many health officials believe that the influx of refugees into the country will increase the incidence rates of infectious diseases, such as tuberculosis and malaria, in the future. No epidemiologic survey focusing on the refugees has been undertaken. In addition to the difficulties inherent in assessing the health status of the mobile refugee population, it also appears to be a very sensitive and politically-charged issue. There seems to be a reluctance to provide additional health care services specific to the needs of the refugees, a common problem in many countries facing similar problems.

TABLE I.6

REPORTED CASES OF ILLNESS AND DEATH
FROM COMMUNICABLE AND NOTIFIABLE DISEASE, 1986
(Rates Per 100,000 population)

DISEASE	ILLNESS		DEATH	
	No.	Rate	No.	Rate
Cholera	--	--	--	--
Plague	--	--	--	--
Yellow Fever	--	--	--	--
Dengue	5	2.9	--	--
Influenza	-	--	--	--
Louse-born Typhus	--	--	--	--
Malaria	2,780	1,625.7	2	1.1
Poliomyelitis	--	--	--	--
Diphtheria	--	--	--	--
Dysentery:				
Amoebiasis	22	12.9	--	--
Bacillary	52	36.4	--	--
Unspecified	8	4.7	--	--
Gastroenteritis (up to 5 yrs)	2515	1479.4	23	13.5
Leprosy	--	--	--	--
Malnutrition (up to 4 yrs)	110	64.7	7	4.1
Measles	124	72.9	--	--
Rubella	14	8.2	--	--
Tetanus	2	1.1	2	1.1
Tuberculosis	23	13.5	3	--
Typhoid fever	1	0.5	--	1.7
Venereal Disease				
Gonococcal	657	386.4	--	--
Syphilis	129	75.8	--	--
Whooping Cough	8	4.7	--	--
Broncho Pneumonia	64	37.6	--	--
Ophthalmic Neonatorum	--	--	--	--
Food-borne illness	1	0.5	--	--
Rheumatic Fever	12	7.0	--	--
Meningococcal Infection	1	0.5	--	--
Viral Hepatitis	31	18.2	4	2.3
Leptospirosis	3	1.7	--	--
Mumps	98	57.6	--	--
Chicken Pox	186	109.4	--	--

Source, Medical Statistics, 1988

TABLE I.7

EPI DISEASES IN CHILDREN UNDER 5 YEARS
1979-1986

YEAR	DISEASE					
	Measles	Tuberculosis	Diphtheria	Pertussis	Neonatal Tetanus	Polio
1979	133	1	-	2	-	2
1980	394	-	-	7	1	1
1981	94	-	-	45	2	-
1982	6	-	1	-	1	-
1983	11	2	-	1	1	-
1984	4	-	-	3	-	-
1985	7	-	-	36	-	-
1986	124	-	-	8	-	-

Source: Medical Statistics, BCH

TABLE I.8

NATIONAL IMMUNIZATION COVERAGE
FOR CHILDREN 0-59 MONTHS, 1986

AGE GROUP IN MONTHS	VACCINE	% FULLY IMMUNIZED	ACHIEVEMENT IN RELATION TO TARGET
9-11	TOPV	82	-8
12-59	"	85	-5
0-59	"	84	-6
9-11	DPT	82	-8
12-59	"	85	-5
0-59	"	83	-7
9-11	Measles	85	-5
12-59	"	86	-4
0-59	"	85	-5

SOURCE: MOH, Report on the Evaluation of National Immunization Coverage in Belize, 1986.

The following will address specific diseases which have been significant problems in the past, as well as a discussion of Acquired Immune Deficiency Syndrome which may be a potential problem in the future.

a. Malaria

Malaria is endemic in Belize. As Table I.9 reveals, there was a dramatic rise in the number of malaria cases from 1975 to 1983, but from 1984 to 1986 the number of cases decreased. The downward trend is expected to continue, as long as effective control measures, including vector spraying, are maintained. Fiscal constraints caused the Districts to cutback on spraying operation between 1974 and 1979 which resulted in a dramatic rise in the incidence rates. But in 1984, through technical and financial support from USAID and PAHO, the Government of Belize reorganized and strengthened its control program. Between January 1988 and August 1988, 1,550 positive cases have been identified. The Public Health Inspector hopes to reduce the incidence of malaria by 30% in the next year. However, maintenance of the program depends now on AID funding. If this funding cease, MOH officials stated to the team, the program will be unable to continue.

b. Dengue

The situation is somewhat unclear with regard to Dengue. The Medical Statistics Office reported 5 cases of dengue fever during 1986. But most health officials doubt these diagnoses, pointing out that they have not been confirmed. The general consensus among MOH officials was that Dengue is not a problem in Belize. But, in a 1985 AID and PAHO sponsored paper, "Increased Productivity Through Better Health," on malaria and dengue, the project staff reported:

"Dengue fever, like malaria, has emerged as a major cause of morbidity in recent years. Reported cases of the disease have increased from only 4 in 1980 to 443 in 1982, representing 7.6% of all reported cases of communicable disease in that year." (AID/PAHO, 1985: 5)

Other than the questionable 5 cases reported by the Office of Medical Statistics, there seem to be no evidence to support a major problem with dengue.

TABLE I.9
 REPORTED CASES OF MALARIA, BELIZE, 1975-1986

YEARS	TOTAL CASES	P. VIVAX	P. FALCIPARUM
1975	90	90	--
1976	204	204	--
1977	876	--	--
1978	1200	1998	2
1979	1430	1417	13
1980	1608	1574	34
1981	2048	2005	43
1982	3868	3677	191
1983	4595	3963	532
1984	3707	3096	610
1985	2830	2715	103
1986	2779	2643	136

 Source: 1985-1986 Annual Report, Department of Statistics

c. Sexually Transmitted Diseases (STDs)

Data for STD were obtained only from the Matron Roberts Health Center where STD clinics are held. In 1986, 17% of those visiting the clinic had positive Gonococcal infections and 12% had positive VDRLs.

d. Acquired Immune Deficiency Syndrome (AIDS)

The first AIDS case in Belize was reported in 1986. Since then, 10 cases of full blown AIDS have been reported and 11 cases of HIV infection have been identified. There have been no efforts to ascertain the prevalence of the disease within the country. Identifying the population at risk has been a problem. The following data have been compiled from the 21 identified cases:

- 13% prostitutes
- 40% gay or bisexual
- 4.5% maternal
- 40% unknown

Most sources have said that Belize does not have a serious problem with IV drug abuse.

The Health Ministry in cooperation with PAHO has developed a two phased program for dealing with AIDS. The first phase a short-term plan, designed to last one year. With a PAHO grant of \$89,000, the MOH will devise AIDS education and counselling workshops, as well as produce a reporting format for clinicians. The second phase of the program, known as the medium term plan, will be a three year project and will focus on surveillance and screening. Only \$400,000 for this phase has been secured from PAHO. WHO/PAHO plan to hold a donors meeting in December of 1988 to scope out this program more thoroughly.

The first AIDS patient in Belize was hospitalized for six-months before her death with health care costs amounting to \$25,000. Belizean health officials believe that because this was Belize's first experience with the disease, caregivers overreacted. The more common practice now is to allow the patient to go home and hospital admission takes place when the patient approaches the critical stages. Education efforts focusing on the family have begun under the auspices of the AIDS counselling Committee.

The Ministry plans to screen all patients diagnosed with tuberculosis and pregnant women under the medium term program. Some testing is now done at the Sexually Transmitted Disease (STD) clinics. As of January 1988, all Belizean blood is screened for HIV using the ELISA test. But Belizean residents returning from medical treatments abroad are not screened upon their return. Incidentally, blood is not screened for Hepatitis B in Belize.

e. Environmental Health

The area of environmental health falls under the Director of Epidemiology and Environment and includes the following activities:

- Food sanitation including meat and food inspection. (Food handler's clinics are conducted weekly at the Matron Roberts Health Center.)
- Inspection of public premises
- Abatement and control of public nuisances and complaints
- Provision of safe drinking water and liquid waste disposal for rural communities, including the construction of rudimentary water systems and installation of hand pumps
- Monitoring of water quality
- Pollution control and prevention
- Rodent and pest control
- Rabies control
- Inspection and approval of liquid and solid waste disposal systems in urban areas.

Environmental health risks such as sewage problems and contaminated drinking water (consumption of rain water, which has been collected in unclean/polluted containers, is popular) are still major problems.

f. Mental and Dental Health

. There is one mental facility in Belize which has about 83 beds. Little epidemiologic data is available on the mentally ill. The Medical Statistics Office reported schizophrenic diseases, drug addiction and alcoholism as the major causes for admission. In 1985, the MOH reported 247 admissions for a total of 32,345 patient days at the psychiatric hospital. Because the average length of stay (131 days per patient) is long for psychiatric treatment in Belize, this total number is disturbingly close to the number of patient days for the entire BCH operation: 46,398. The team did not have an opportunity to determine the type of psychiatric patient management protocol used by the MOH in this facility; the MOH stated that the type of care in the psychiatric hospital is custodial in nature.

The BCH and district hospitals offer dental care, which mostly includes extractions.

II. THE HEALTH CARE DELIVERY SYSTEM

A. Public Sector: Policies, Programs, and Resources

1. Health Policy and Planning

The Constitution of Belize establishes that "a just system should be ensured to provide (the people with) education and health on the basis of equality". The official policy of the government recognizes that health is a basic human right and a fundamental part of the development process. In the health sector, the Government assumes responsibility for ensuring that every Belizean, without distinction, may have access to the best level of care available and appropriate to his/her health needs.

The Government, as a co-signatory of the Alma-Ata Declaration, subscribes to the principles and the goals set by the international community of "Health For All By The Year 2000". It has adopted the Primary Health Care strategy as the foundation of the development of its health system. National health policy is guided by principles which state that the health services should be:

- a. Democratic
- b. Comprehensive
- c. Educational
- d. Participatory
- e. Accessible

Although the provision of health services is principally the responsibility of the Ministry of Health, the maintenance of health has much wider implications and is dependent on the quality of life of the majority of the population. The promotion of health relies in large measure on overall social and economic development.

The Ministry of Health prepared the first National Five Year Health Plan in 1982/83, following a development strategy based on the Primary Health Care approach. The plan emphasizes community participation and intersectoral coordination as key elements for achieving Health for All.

However, the official policy emphasis on primary health care has somewhat obscured the fact that the costs of operations, both within the Ministry of Health and the private sector, have risen due to increased demand for chronic care treatment. As a result, spending on prevention and primary health care is constrained. As costs continue to shift to higher treatment levels, more of the MOH's budget is being consumed by curative care. Approximately 17% of the MOH's budget is in primary health care. The donor community is actively supporting the MOH primary health care plan with additional funds.

The burden of financing health care is shifting from preventive to chronic treatment. Thus, tax generated revenues

cannot be expected to cover the entire costs of health services to Belizeans. In this regard, the official policy of the Ministry of Health acknowledges that government may not always be capable of assuming total responsibility for health care financing. It goes on to state that "efforts will therefore be made to identify alternative sources of funding to supplement government finance of health services". Such a policy position presents significant opportunities for examining alternative responses to the financial implications of providing health services to all Belizeans.

2. Health Services System

Present hospital facilities offer only general medicine and surgery. The largest facility is the Belize City Hospital (BCH) which contains 186 beds and offers general medical services and basic surgery. It does not, however, have such surgical specializations as cardiac care or eye surgery, or medical specialists in such basic areas as ENT, and is not able to deal with complex trauma such as burn care. Patients needing these services are sent abroad, usually to Guatemala, Mexico, Jamaica (University of the West Indies), Costa Rica, New Orleans, or Miami. At various times throughout the year, BCH offers specialty surgical services, e.g., orthopedics, when surgeons from the U. S. and other countries volunteer their time.

Physicians practicing exclusively in the private sector have no access to public hospitals. If their private patients require hospitalization, they must either be referred to a physician employed by the Government who can admit them to a public hospital, or be sent to facilities outside the country. The lack of private options for hospitalization has been thought to be a function of a limited market for private medical services, given that a private hospital designed to meet this need recently closed. However, of greater significance is the structure of the financing arrangements in Belize, which inhibits the development of efficient private sector resources in health and medical facilities.

a. Organization and Management

Although the government is the main provider of health services, the private sector is emerging to the point where MOH officials believe it now consumes at least 44 percent of all health expenditures. In some areas, i.e., Big Creek, the private sector provides most of the primary services, while the MOH provides secondary care through its hospital in Dangriga. In rural areas, the PVO community is becoming a leading force in primary care. Their clinics tend to be well-staffed and stocked with medical supplies in contrast to the irregularly supplied MOH facilities. This has led to a distinct preference on the part of rural residents for PVO services because of their dependability. Rural health nurses are placed in a disadvantageous position: they are dependent on medical supplies from the MOH to sustain their credibility with those they are supposed to serve. When the MOH experiences shortages in its supply network, the nurses either have

to reduce the hours of operation for their clinics or request supplies from the PVOs.

Chart II.A is an organogram of the Ministry of Health as of November 1988, covering public health services in Belize. There are four main divisions:

MOH 1, with responsibilities for EPI, Environmental Health and Vector Control activities,

MOH 2, includes the technical areas of MCH and STD (sexually transmitted diseases)

MOH 3, with program responsibilities for TB Control, PHC, and District Services.

MOH 4, with overall responsibility for Administration, and the School of Nursing.

The Director of Health Services serves as the Administrator of the Belize City Hospital, and also chairs the National Primary Health Care Committee which guides the activities of all PVO health operations in the country.

Most facilities are government owned and run. These include 9 hospitals and 31 health clinics. There are two additional health care clinics operated by private denominational groups, and there are three private for-profit clinics. On the other hand, many medical personnel in Belize work entirely or partially in the private sector. Most pharmacists are private, and three private laboratories and several private radiology facilities also employ health personnel. The physician community includes 32 purely private physicians who operate as solo practitioners. Of the 41 public sector physicians, most operate private practices outside of their government duties, though sometimes within government facilities, i.e., the BCH.

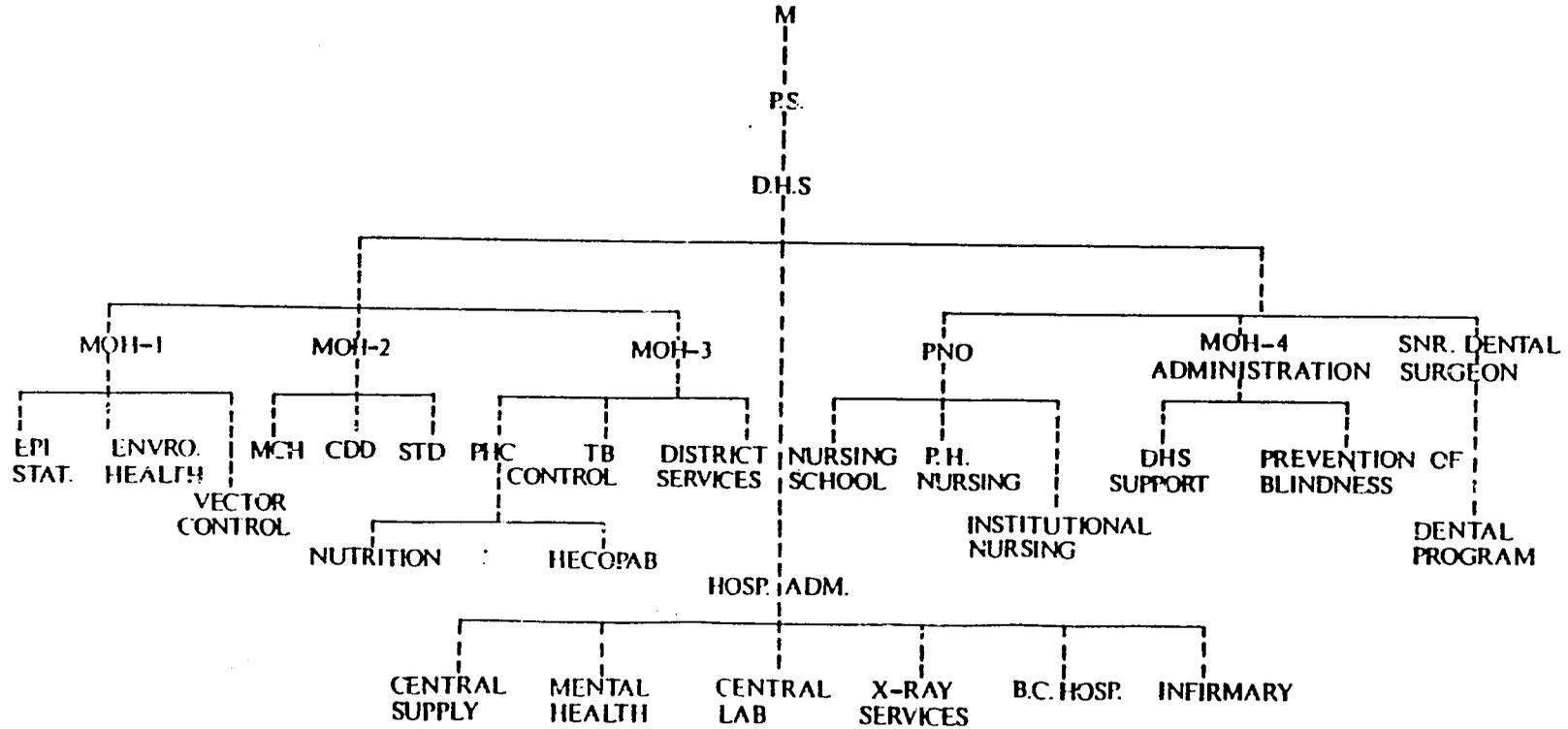
b. Health Facilities and Coverage

The Belizean health care delivery system is comprised of four distinct levels of care: two levels of hospital-based care and two levels of clinic or outpatient care. Although government-operated facilities are predominant, particularly in rural areas, national health care expenditures are moving rapidly toward increased consumption in the private sector, with a significant portion of it being spent abroad.

ORGANIZATIONAL CHART MINISTRY OF HEALTH BELIZE, C.A.

1988

CHART II-A



Hospital-based Services

Government hospitals include three national hospitals and six district hospitals. The national hospitals are the 186-bed Belize City Hospital, an 83-bed psychiatric hospital, and a 48-bed chronic care institution for the aged. The Belize City Hospital provides care in the following areas for the whole population: perinatology, obstetrics, gynecology, pediatrics, internal medicine, ophthalmology, general surgery, and emergency care.

The district hospitals, each having between 28 and 47 beds, are usually staffed by two medical officers, about one dozen nurses, and several auxiliaries. They each serve a population of between 15,000 and 20,000. The staffing patterns of the district hospitals for 1988 are shown in Table II.1

In each district there are also district health centers, which are headed by a medical officer, a public health nurse in charge of mobile visits to rural villages, a public health inspector and a malaria evaluator.

In 1986, there were 553 beds available in government hospitals, amounting to a ratio of 3 beds per 1,000 population. The distribution of types of beds relative to population was reported as follows for 1986:

25 acute care beds per 10,000
5 psychiatric beds per 10,000
3 chronic care beds per 10,000

Table II.2 summarizes the size and utilization data relating to the government hospitals in Belize. It is notable that the occupancy rates in the district hospitals average less than 30% with length of stay averaging less than 3 days. The Belize City Hospital, serving as the country's main referral hospital, had a 1986 occupancy rate average of 71% and a length of stay average of 6 days.

Two private hospitals which have recently opened in Belize City add another 24 inpatient beds to the national total of 422 acute care beds [more will be said about the private sector below]. Although the availability of hospital beds is adequate for the size of the population, there are considerable variations in the quality and availability of specific services across hospitals. Many patients bypass the district hospitals and go directly to the Belize City Hospital when they become ill. The low occupancy rates in district hospitals may attest to a preponderance of routine, short-stay cases.

Primary Health Care Services

TABLE II.1
MEDICAL FACILITY STAFFING
1988

	Belize City Hospital	Orange Walk	Corozal	Belmopan	San Ignacio	Dangriga	Punta Gorda	Old Age Infirmary	Rockview Psychiatric Hospital
Physicians	23	2	2	2	2	2	2	-	3
Nursing Staff	163	12	13	15	11	12	12	-	6
Medical Auxiliaries									
Pharmacy	12	1	1	1	1	1	1	-	-
Laboratory	8	1	1	3	1	1	1	-	-
Radiology	7	-	-	-	-	-	-	-	-
Other	5	1	1	9	-	2	1	10	29
Domestic staff	19.0	-	-	-	-	-	-	-	-
Medical records	5								

TABLE II.2

COMPARISONS AMONG BELIZEAN HOSPITALS: FACILITIES

1986

	Belize City	Orange Walk	Corozal	Belmopan	San Ignacio	Dangriga	Punta Gorda	TOTALS
Population	56,400	27,200	28,200		27,900*	16,700	14,000	170,382
Beds	186	28	28	47	28	47	30	422
Persons/bed	303	971	1,007		372*	355	467	404
Admissions	8,672	1,773	1,144	1,273	1,462	1,336	1,148	
Discharges	8,317	1,766	1,107	1,220	1,939	1,161	1,055	
Deaths	285	36	20	16	22	23	10	
Patient days	46,577	4,337	2,572	3,541	3,044	4,193	3,692	
ALOS	6	2	2	3	2	4	3	
Bed Occupancy	71	42	25	21	30	24	34	
Referrals at BCh	---	138	161	24	-	174	66	

 Psychiatric Hospital

 Old Age Infirmary

Beds	83	48
Admissions	247	7
Patient days	32,345	12,775
ALOS	131.0	3193.8
Bed occupancy	106.8	72.9

 Note: * - Both Belmopan and San Ignacio are in Cayo district.

Except for physicians which practice privately in the towns, all primary care services are operated by the government or by PVOs and church groups. Ten outpatient clinics are operated by the MOH, most of which are distinct parts of government hospitals. Apart from these clinics, the government also staffs and supports rural health centers, which are headed when possible by a rural health nurse. The target population of each center varies from 2,000 to 4,000 people who also have access to any of several rural health posts staffed primarily by volunteer community health workers (CHWs), traditional birth attendants (TBAs), and other community members which may have been trained by PVOs. The services provided through the CHW are provision of basic drugs, home deliveries of low-risk pregnancies, diagnosis and treatment of malaria, oral rehydration therapy, and health promotion and educational activities. Although the CHWs/TBAs are often nominally under the supervisory jurisdiction of the rural health nurse in the local rural health center, operationalizing these supervisory duties has proven difficult for the MOH, which does not have sufficient staff to manage the expanding network of CHWs/TBAs/others.

The 31 health centers in Belize, shown in Table II.3, include district health centers as well as rural health centers. Since rural health nurses are in short supply (a new class has just started at the School of Nursing), less than 50% of the 24 rural health centers are staffed by a rural health nurse.

c. Health Care Personnel

It is ironic that the one category of medical professional which is trained in Belize--nurses--is in the shortest supply. While the Belize School of Nursing is respected for the quality of its graduates, the demand for registered nurses in the United States has recently far outpaced the capacity of the school to train them and the health system to retain them. In recent years, moreover, the shortage of rural health and public health nurses has been more severe than that for hospital-based nurses, which are in great demand outside Belize. The class of students which just began a two-year training program is being prepared to become rural health nurses. The School of Nursing is also capable of training practical and professional level nurses, as well as midwives for government service. Unfortunately the training capacity is not sufficient to train all cadres simultaneously.

The majority of physicians are expatriates, and the turnover rate is fairly high. In recent years, however, an increasing number of specialist posts in government service have been filled by Belizeans. No medical training is available in Belize. One or two Belizean students are accepted annually and trained at government expense at the University of the West Indies. Others obtain scholarships or study by their own means in Mexico, Central America, or the United States. The number of doctors in exclusively private practice has increased considerably in recent years: in

TABLE II.3

DISTRIBUTION OF HEALTH CENTRES BY DISTRICT, 1986

District	Population	Health Centres	Population/ Centre
Belize	56,400	7	8,057
Corozal	28,200	4	7,050
Orange			
Walk	27,200	4	6,800
Cayo	27,900	4	6,975
Stan			
Creek	16,700	7	2,386
Toledo	14,000	5	2,800
<hr/>			
Total	170,382	31	5,496

Source: Central Statistics Office, 1986

1981 there were only 9 private doctors whereas in 1986 there were 32. Government doctors are also able to practice privately in their off-hours.

Other categories of health personnel, professional and technical, receive their training in subregional Caribbean and Central American institutions. The numbers of personnel who are registered to work in Belize exceed the numbers in statistics which are available from MOH on those actually working. In 1986, there were 120 doctors registered in Belize, of which 41 worked fulltime or parttime for the Ministry of Health. Most of the others are probably inactive or out of the country at present. Similarly, in 1986, there were 591 registered nurses and 229 nursing assistants. Only a portion of these categories worked for the government; the rest are either inactive or out of the country at present.

Table II.4 shows the data on health care personnel working in Belize according to category and ratio relative to population.

d. Public Health Expenditures

Governmental health care expenditures are equivalent to about 10% of the government operating budget and about 3% of the country's gross domestic product (GDP). Just prior to independence in 1981, government health expenditures increased rapidly, doubling from about B\$34 per capita in 1978 to about B\$68 per capita in 1981. While government health expenditures have been a relatively steady 10% of the operating budget, economic fluctuations have led to revenue fluctuations which caused government spending to drop earlier in the decade before rebounding in recent years. Expenditures per capita dropped somewhat since 1981 to B\$56 per person in 1984, but have rebounded recently and now stand at about B\$65 per person. (See Table II.5).

It should be noted that, while Belize has serious problems to face in the rationalization and management of health care finance, the level of currently available per capita public resources is extremely high for a developing country. Belize's problem is less one of level of public resources allocated to health than of the rate of return on the investment of those resources, in terms of quality, effectiveness and access.

The distribution of government health spending among various program areas is shown in Table II.6 for recent years. The large share of spending on hospital services, however, is in actuality even greater than indicated in that table. A recent AID-financed study of costs and financing of health care in Belize reported that a detailed accounting of allocated costs in the Ministry of Health budget revealed that the total costs of the Belize City Hospital was B\$5.4 million in 1984-85, and total costs of district hospitals was B\$2.7 million in that year. Of the total costs of services delivered through hospitals and clinics in that year, 63% went to BCH, 26% went to district hospitals, and 11% went to rural health

TABLE II. 4

GOVERNMENT HEALTH PERSONNEL, BELIZE 1981 - 1986

CATEGORY	TOTAL		RATE PER 10,000	
	1981	1986	1981	1986
Doctors (Government)	46	41	3.1	2.3
Doctors (Private)	9	32	0.6	1.8
Doctors (Total)	55	73	3.7	4.1
Dentists (Government)	4	5	0.3	0.2
Dentists (Private)	5	5	0.3	0.2
Principal Nursing Officer	11	1	0.1	0.1
Matron	2	2	0.1	0.1
Nurses	179	229	12.2	13.1
Public Health Nurses	19	12	1.3	0.6
Rural Health Nurses	33	9	2.2	0.5
Inspector of Mid-Wives	1	1	0.1	0.1
Mid-Wives	NA	164	—	9.4
Psychiatric Nurses	9	9	0.5	0.5
Family Nurse Practitioner	1	4	0.1	0.2
Nurse Auxillaries	62	30	4.2	1.7
Nutritionists	1	1	0.1	0.1
Health Educators	1	2	0.1	0.1
Lab Technicians	9	6	0.6	0.3
X-Ray Technicians	7	7	0.4	0.4
Pharmacies	1	1	0.1	0.1
Dispensers	13	9	0.9	0.5
Supplies Officers	2	2	0.1	0.1
Public Health Inspectors	9	9	0.5	0.5
Vector Control Personnel	60	69	4.1	3.9

TABLE II.5

PUBLIC HEALTH EXPENDITURES, BELIZE, '83/'84-'83/'89
IN RELATION TO POPULATION, GDP, & TOTAL PUBLIC SPENDING

(by fiscal year, thousands of Belize dollars)

Current Expenditures	Actual '83-'84	Actual '86-'87	Budget '87-88	Estimates '88-'89
Ministry of Health*	\$9,043	\$10,256	\$11,398	\$12,218
Total Government	\$90,500	\$105,600	NA	NA
MOH as % of Total Gov't	10.0%	9.7%	NA	NA
Gross Domestic Product	\$308,400	\$361,200	\$394,700	\$430,500
MOH as % of GDP	2.9%	2.8%	2.9%	2.8%
Population	162,052	170,382	175,153	NA
MOH Spending per Person	\$56	\$60	\$65	NA

Sources:

Ministry of Health data:

'83-84 data are from "Priority Health Needs/Belize," GIS/PAHO, 1985.

Other data are from "Estimates of Revenue and Expenditure for the Year '88-'89," Government of Belize, March 11, 1988.

Government expenditure and GDP data:

World Bank estimates and projections, 1988.

Population data from Central Statistics Office.

* Some minor government expenditures on rural sanitation and vector control are through the Ministry of Natural Resources, and are not included in this total.

TABLE II.6

PUBLIC HEALTH EXPENDITURES, BELIZE, 1983/84 - 1988/89
(by fiscal year, in thousands of Belize dollars)

	Actual '83-'84	Actual '86-'87	Budget '87-88	Estimates '88-'89	Percent '88-'89
ADMINISTRATION					
Central Administration	\$310	\$180	\$235	\$289	
Direction of Health Services	\$1,462	\$1,348	\$1,695	\$1,072	
Subtotal	\$1,772	\$1,528	\$1,930	\$1,361	11%
PUBLIC/PREVENTIVE HEALTH					
Vector Control	\$631	\$489	\$605	\$561	
Community Health	\$422	\$419	\$695	\$872	
Environmental Health	\$303	\$354	\$297	\$297	
Dental Health	\$103	\$104	\$152	\$162	
Communicable Disease Control	\$28	\$19	\$38	\$55	
Epidemiological Surveillance	\$33	\$28	\$38	\$46	
Health Education	\$23	\$24	\$44	\$60	
Subtotal	\$1,543	\$1,437	\$1,869	\$2,053	17%
DISTRICT HOSPITALS					
Belmopan	\$262	\$350	\$367	\$433	
Corozal	\$139	\$234	\$275	\$327	
Punta Gorda	\$160	\$230	\$272	\$317	
Orange Walk	\$159	\$226	\$275	\$382	
Dangriga	\$176	\$266	\$278	\$352	
San Ignacio	\$124	\$295	\$264	\$341	
Subtotal	\$1,020	\$1,601	\$1,731	\$2,152	18%
NATIONAL HOSPITALS					
Belize City	\$2,513	\$3,217	\$3,017	\$3,705	
Infirmery	\$53	\$60	\$70	\$116	
Psychiatric	\$219	\$273	\$353	\$427	
Subtotal	\$2,785	\$3,550	\$3,440	\$4,248	35%
CENTRAL STORES	\$1,616	\$1,864	\$2,162	\$1,865	15%
SCHOOL OF NURSING	\$307	\$276	\$266	\$539	4%
GRAND TOTAL	\$9,043	\$10,256	\$11,398	\$12,218	100%

Sources:

Ministry of Health, Government of Belize:

'83-84 data are from "Priority Health Needs/Belize," GIS/PAHO, 1985.

Other data are from "Estimates of Revenue and Expenditure for the Year '88-'89", Government of Belize, March 11, 1988.

clinics. These percentages allocated to hospitals in 1984-85 exceeds the percentages shown in the 1988/89 MOH budget. The former number includes capital costs and portions of central stores and administrative costs which actually support hospitals but are assigned to other MOH budget categories.

A relatively high portion of government health expenditures are allocated for salaries (about 60%). When budgets are tight, particularly toward the end of fiscal years, funds for travel and subsistence and for needed supplies and equipment are typically the first to be cut. This has been evident in the current fiscal year. Under such conditions, the productivity of government health personnel, and hence the quality of government health services, tend to suffer, since medicines cannot be provided to those needing them and since basic supplies such as bandages and sutures may be in limited availability. In recent years, the budget constraints suffered by the MOH are reported to have had a negative impact on the reputation of the quality of services available at all government health facilities.

e. Public Health Programs

Public health programs are conducted within all four operational units of the MOH (see ogonogram). However, in terms of budget allocations, these programs only account for 17 percent of MOH expenditures. In addition to GOB funds, the donor community has taken on a substantial role in direct financial assistance to the MOH, expanding public health program coverage throughout Belize.

The main public health programs of the MOH are:

1. Material and Child Health (MCH)

MCH provides services to children under six years of age and to women of child bearing age. These services include:

- Prenatal care
- Hospital and home delivery by trained personnel
- Post-natal care, including breast-feeding counselling
- Monitoring of physical and nutritional development of children up to five years of age.
- Immunization of pregnant women against tetanus and children against tetanus, whooping cough, poliomyelitis, measles, tuberculosis and dyptheria.
- Promotion of oral rehydration therapy for diarrrheal disease
- Family life education and family spacing counselling.

These activities are carried out mainly by public and rural health nurses at health centers and by mobile clinics, and by referral to specialists at Belize City Hospital as needed.

UNICEF (with financial assistance from the Italian Government)

and other donors have provided extensive assistance to the MCH program over the past three years (see Table 11-7).

2. Environmental Health

The Public Health Inspectorate conducts this program, consisting of the following activities:

- Food sanitation including meat and food inspection
- Inspection of Public premises
- Abatement and control of public nuisances and complaints
- Provision of safe drinking water and liquid waste disposal for rural communities, including the construction of rudimentary water systems and installation of hand pumps
- Monitoring of water quality
- Pollution control and Prevention
- Rodent and pest control
- Rabies control
- Inspection and approval of liquid and solid waste disposal systems in urban areas.

3. Vector Control (malaria & *Aedes aegypti*)

This program is aimed principally at the control of malaria and *Aedes aegypti* mosquito. The National Malaria Control Service administers the malaria component and the Ministry of Natural Resources supervise the *Aedes* component. The following activities are carried out:

- Epidemiological evaluation and investigation
- House to house spraying
- Fever case detection and treatment
- Entomological assessment
- Treatment of mosquito breeding areas
- Terrestrial spraying of insecticide

AID, through a contract with Pragma/MCD, is providing long-term support to these activities, along with PAHO.

4. Communicable Disease Control

This program deals with prevention, early diagnosis and treatment of Sexually Transmitted Diseases and Tuberculosis. TB control is based on the ambulatory treatment of sputum positive cases and prophylactic treatment of contacts. STD control is carried out through a weekly clinic in Belize City and in the

TABLE II.7

BUDGET DISTRIBUTION BY SOURCE

MCH PROGRAM

SOURCE	(B\$000)		
	1986	1987	1988
GOVERNMENT			
MINISTRY OF HEALTH	194.0	236.0	348.0
SOCIAL SECURITY			
OTHERS			
UNICEF/EEC/ITALY:	102.0	95.0	87.0
OTHERS UNICEF			
PAHO/WHO			88.9
INCAP			
UNFPA		26.5	
USAID			
IDA			42.2
OTHERS			
PROJECT HOPE:	70.0	70.0	70.0
ROTARY:	9.0	15.0	15.0
CARE:		100.1	88.1
TOTAL:	375.0	542.6	739.2

Source: Ministry of Health

outpatient departments at the district level. Contact tracing is limited. Both the public health nurses and the public health inspectors collaborate with program staff in monitoring patient compliance and follow-up.

5. Health Education and Community Participation

The Health Education and Community Participation Bureau (HECOPAB) was established by the Ministry of Health in 1983. The functions of this unit are to coordinate, promote and facilitate community involvement in health activities and to support health education efforts by all health workers. HECOPAB has been instrumental in the development of intersectoral community based District Health Teams in which community members, health workers and representatives of other government agencies at the district level combine efforts to resolve health related issues of concern in their area. A National Health Education Council comprising various governmental and non-governmental agencies has also been instituted.

Both the Peace Corps and the British VSO are providing staff assistance to HECOPAB.

6. The Child Survival Task Force

The Child Survival Task Force at the national level is a coordinating, working group representative of the Ministry of Health, donor agencies and other non-governmental organizations involved in child survival activities in the country. Child survival programming is an integral part of MCH.

The Task Force is constituted as follows:

- Ministry of Health
- UNICEF
- A.I.D.
- PAHO/WHO
- CARE

- Project Concern International (PCI)
- Health Talents International (HTI)
- The Belize Rotary Club
- Council for Voluntary Social Services (CVSS)
- The Belize Red Cross
- Enfants Refugees Du Monde
- Breast is Best League

The chairperson of the Child Survival Task Force is the Coordinator of the Child Survival Project of the Ministry of Health; The Group meets once a month.

The main objectives of the Child Survival Task Force are:

- To share information on activities of each member organization for the benefit of the implementation of each other programs.
- To ensure that all donors and other non-governmental organizations are adhering to Government's policies on child survival and to coordinate with the representatives of the Ministry of Health.

B. Social Security and Medical Care in Belize

Workers in Belize have been covered by social insurance since its inception in 1979 when the Social Security law was passed. Since then, the vast majority of workers have become insured under the system. The most recent count of 60,000 registered persons includes about 30,000 active employees. [The rest are transient or intermittent workers; only 600 are currently receiving pension benefits.]

The SSB (Social Security Board) program provides three types of benefits to enrollees (Government of Belize, 1979). Employment injury benefits provide payment to insured persons injured during the course, and as a result, of insurable employment. In such events, SSB becomes liable for payment of medical care, temporary and permanent disability, death benefits and funeral grants. Short-term benefits consist of sickness benefits reimbursing enrollees for earnings lost due to work absences during illness; maternity allowance for earnings lost during maternity leave; and maternity grants payable to wives of enrolled male workers or to enrolled women at the rate of B\$50 per grant. Long-term benefits encompass retirement, invalidity and survivor's benefits, and funeral grants.

The benefits are financed through payroll taxes levied in fixed amounts to each of four categories of earnings, with the lowest earnings category (under B\$40 per week) contributing B\$3.25 per week, and the highest category (over B\$110 per week) contributing B\$10.60 per week. While the percentage contributed will vary depending on a worker's actual pay, the contributions generally vary between 8% and 10% of pay. However, since this schedule has not changed since 1979, wage inflation has pushed most workers into the highest earnings category, where the higher the earnings the lower the contribution is as a percentage of total pay (and, for the highest earners, is much lower than 8%). Very little of the contribution is paid by the employee through payroll deductions. The highest percentage paid through deductions is at the low end of the highest earnings category in which 12% of the contribution comes from payroll deductions; at the lowest earnings

category, the employee's deduction is equivalent to about 3% of the contribution. However, since wages would very probably be higher in the absence of the contributions required from employers, it is fair to say that most of the contributions are paid by workers.

The schedule of required contributions includes a flat tax of B\$1.50 per week per worker for employment injury benefits (included in the numbers above). While levied separately, it is not clear that this flat tax is actually earmarked for that benefits fund. Distribution of the contributions to the three benefits funds is specified by law. The long-term benefits fund receives 50.0% of contributions, the employment injury benefits fund receives 28.6%, and the short-term benefits fund receives 20.4%.

All three benefits funds are currently very healthy, although it is not known whether over the long-term they are actuarially sound. For the period 1981 through 1985, total expenses of the SSB (including benefit payments) have been exceeded by interest income alone. For both employment injury and long-term benefits funds, current contributions were exceeded by surpluses allocated to reserves in both 1984 and 1985 (the most recent years for which final reports are available). For short-term benefits, current contributions and the surplus for those years were roughly equal. In 1985, total benefits payments and operating expenses were 68% of interest income alone. Given the fact that contribution rates and benefits have not changed substantially since 1985 and that the economic situation in Belize has remained relatively healthy during that time, it seems safe to project that the B\$30 million reserve held by all three funds at the end of 1985 has likely grown to over B\$50 million.

Of particular note for our purposes are the reserves held by the employment injury benefits fund. Its reserves of about B\$7.5 million at the end of 1985 are now likely to be close to B\$15 million--more than the annual budget of the Ministry of Health. Annual benefit and operating expenses have been less than annual investment income, so that an amount in excess of annual contributions is added to reserves every year. A very minor fraction of the expenses are paid out for medical care. The level of these expenses has so far been very stable because the SSB has an agreement with the Ministry of Finance to transfer B\$50,000 annually to cover the expenses of treating insured workers at government facilities without any charge. This agreement covers such expenses regardless of the number of cases treated. In 1984, there were 713 work-related injury claims, while in 1985, there were 562.

According to the 1985 Annual Report, this annual B\$50,000 payment comprises the majority of total 1985 medical care costs of about B\$80,000 paid for treatment of injuries in the 562 cases; the additional B\$30,000 was spent for specialized medical treatment abroad for two cases, and for private medical care when government services were unavailable. In addition, the employment injury benefits fund paid out about B\$80,000 to the 562 workers to

compensate for lost wages due to employment injuries, about B\$185,000 in cash benefits to compensate 64 workers for partial or total disability due to employment injuries, and about B\$240,000 for death benefits and funeral grants to 8 persons. Total benefit payments totalled B\$580,000 in 1985, compared to B\$370,000 in 1984.

C. The Private Medical Care Sector

Although the GOB is committed to provide equal access to basic health care to all its citizens, it does permit a certain level of private medical care to be delivered and purchased in Belize. The recent trend appears to be one of giving greater public policy encouragement to private health care services; yet to date, there has not been a definitive public policy statement to that effect. In discussing the issues involved, it is useful to distinguish between the supply and demand sides of the private sector.

The demand side of most medical care markets is largely, if not solely, private in the sense that individuals decide for themselves which provider or service they will patronize. Of course, it is not unusual for individuals to rely more for financing their decisions on collectivized mechanisms (third-party insurance or government-financed care) than on paying out of their own pockets. But the decision about where to go, even where options are limited, is a matter of personal choice, and therefore private. This observation may seem mundane or irrelevant, but it is worth noting, before discussing the supply side, that the existence of "free" services does not necessarily create demand for those services. People with the ability and willingness to pay (whether out-of-pocket or through insurance) will seek out and choose those services which they perceive will give them the best value relative to cost. In Belize, many citizens leave the country to purchase medical care, particularly specialized medical care, because they are able to pay for care which is available (at perhaps some considerable cost) in Mexico and Guatemala but is not available (at any price) in Belize.

On the surface, the supply side of the medical care market in Belize is heavily dominated by government-financed providers, clinics, and hospitals. Government policy does, however, allow some role for private practice and permits the operation of private hospitals. Government-employed physicians are allowed to practice privately in their off-duty hours, except for non-specialist physicians in Belize City. Government-employed specialist physicians, in fact, are allowed to admit private paying patients to government hospitals. Under some restrictions, private physicians are allowed to practice, although they are not allowed to admit patients to government hospitals. Of the 73 physicians currently working in Belize, 32 are exclusively private practitioners.

Two private hospitals have recently opened in Belize City. St. Francis Hospital, with six beds, has been open about one year and has achieved an average 35% occupancy during that time, mostly from

maternity cases. The hospital is staffed by a full-time surgeon, and three part-time staff doctors. It also has an outpatient facility, serving 10-15 patients per day, a small laboratory, an x-ray facility, and a pharmacy. St. Francis was originally started in 1976 as a diagnostic clinic and plasma center--the only FDA-approved plasma center outside the U.S. [The plasma center is no longer in operation.]

A second private hospital, the Myo'on Clinic opened in October with five maternity beds and one general medical bed. In the first three weeks of operation, it achieved about 35% occupancy. It is owned and operated by a Belizean physician and his wife, who runs the associated private dental practice at the clinic. Three other physicians provide part-time coverage; so far, only inpatient maternity services are provided on a 24-hour per day basis. The clinic offers outpatient services, and has an x-ray machine and an ultrasound scanner. Plans for a laboratory and a pharmacy are on the drawing board. Specialist physicians, including non-Belizeans, are permitted to work temporarily at his clinic. They are eligible for temporary registration permitting work at a specific private institution.

There are not now any formal licensing or regulatory requirements for opening a private hospital. In effect, however, the "gatekeeper" on expanded private medical systems is the Medical Council which must approve any new physician seeking to practice in Belize. Such approval has historically been extremely difficult to obtain for exclusively private practice.

The above two hospitals are in fact not the first to be opened in Belize, nor are they likely to be the last. Until May, 1986, the Santiago Castillo Hospital was operating with 16 beds, radiology and laboratory facilities, and an operating theatre. The hospital was staffed by one resident physician and 12 professional nurses. It is not entirely clear why the hospital closed. One result, however, was that government physicians were once again able to charge fees to private patients they admitted into government hospitals. Belizean law sanctions this practice as long as no private alternatives exist.

In addition to two private hospitals in Belize City, there are several private laboratories and radiology services. The most important of these is a private laboratory, the Pathology Laboratory Ltd, which has been in operation for 10 years as a full-service laboratory. The laboratory is owned and operated by a Belizean medical technologist working in partnership with two pathologists in New Orleans, Louisiana. At least two air express packages of samples are sent every week to New Orleans for tests. Since there is now no pathologist working in Belize, the Pathology Laboratory Ltd. performs all pathology work for the Belize City Hospital, in addition to some basic laboratory services, when needed. Although there are several other private labs in Belize City, this one is the best equipped and appears to have the largest share of the private market for laboratory services, as well as a

significant portion of government work. The Pathology Laboratory Ltd. also operates small labs in some of the district centers, and serves to supplement government lab services in those areas. These private labs are particularly important in the districts when the government lab services are curtailed because of irregular stocking of requisite supplies and reagents.

As things now stand, private companies which provide ancillary services like laboratory tests and x-rays are very much dependent for their success on the status of government services. When government services become curtailed in stock-out situations, these private facilities benefit. If government facilities were to improve, both in terms of scope and regularity of services provided, these private services suffer proportionately. As the private medical sector grows in size and in importance, however, there will be a greater basic level of demand for private ancillary services which will support a small number of private laboratory and radiology service companies.

Private pharmacies are also an important part of the medical care system, filling a significant proportion of prescriptions written in government outpatient departments as well as supplying government hospitals with drugs in critical stock-out situations. Historically, pharmacists--when asked by patrons to prescribe medication--have attached a fee to the price of drugs to cover prescribing services. Recently they were told by the government that charging such fees to customers for prescribing services was illegal.

Foreign medical care facilities are a significant source of care for many Belizeans. Hospitals in Merida, Mexico--about an 8-hour drive from Belize City, are the most common destination of those leaving Belize for medical care. Guatemala and the U.S. (Houston, New Orleans, and Miami) are visited by those who have more resources to commit to medical care. Many doctors in exclusively private practice refer their patients to foreign medical facilities because they are reluctant to turn their patients over to Belizean specialists whose quasi-public status makes them competitors in the private market.

Outside of Belize City, a substantial amount of private medical care is provided by government physicians working in private practices during off-duty hours. One private physician in Big Creek, however, has established a promising practice through an arrangement with the Banana Control Board. The Banana Control Board had sought to bring a private physician to the areas of the banana plantations in Big Creek because of the cost (to them) of reimbursing workers for pay lost (up to 3 days' worth) when they had to travel to Dangriga (55 miles north) or Punta Gorda (60 miles south) to obtain medical treatment for employment-related injuries from the government hospitals in those district centers. No government physician was available at any closer location. The Social Security Board had an interest in reducing its costs also, which would be lower if medical treatment could be provided

locally. (It was liable to travel costs for those injured on the job; medical costs at government facilities are essentially prepaid by the SSB.) After joint consultation. The Banana Control Board made a commitment to a government physician that enabled him to leave public service and open a private practice in Big Creek which now serves an estimated 6,000 people. The Banana Control Board agreed to provide housing and clinic facilities to a this physician, as well as a two-year income guarantee. Subsequently, the SSB agreed to reimburse its insured workers for the costs of insured treatment they incurred at the physician's private clinic. At the same time, local residents obtained access to basic medical care on a fee-for-service basis. Although they paid more out-of-pocket for physicians' services, they probably are paying less overall, because they avoid the travel and time costs associated with obtaining "free" government treatment from the district hospitals in Dangriga or Punta Gorda. While there is a government rural center in nearby Independence, it is staffed by an elderly public nurse who keeps only irregular clinic hours and who rarely has basic medicines or supplies. The private physician's practice has greatly improved access to basic medical care to the area residents.

D. The Role of AID and Other Donors

Since independence, there has been an impressive expansion of health services infrastructure, resulting in notable success in reducing infectious and parasitic diseases. More recently, the donor community, particularly AID, has had a direct influence on the development of primary care and child survival as targeted disease control programs for population groups most at risk.

The shifting of the cost burden for primary care to the donor community has permitted the MOH to concentrate its resources on curative care. AID, alone, is responsible for funding child survival programs at a factor of 5 above that of the Government (see Tables II.8 & II.9). Yet, even if AID in cooperation with other donors completely funded primary care, the Ministry of Health still would face an inevitable situation: Belize, like every other country in the world, will never have sufficient tax-generated revenues available to fund curative care through the public sector. Donors may mitigate this somewhat by taking on the fiscal responsibilities for primary care in the near term, but the problem of who pays for increasingly expensive curative care services will not go away.

When policymakers drafted the National Plan in 1982, they realized that alternative sources of financing would have to be found at some point down the line. Since the EEC and the Government are now committed to the new Belize City Hospital, a catalyst may be in place for a National Dialogue on Health Care Financing.

Of the donors, AID appears to have a competitive advantage in

Table II.8

Health and Child Survival Population Coverage

1. Population (mid-year 1987)	175,153
2. Number 12 months and under	5,824
3. Number aged 12-60 months	23,248
4. Women of Reproductive Age (15-49)	38,466
5. Total in categories 2-4 as target population for Child Survival coverage	59,775
6. Less Number of item (5) covered by private sector services (20 percent) ¹	11,955
7. Less number of item (5) covered by church religious groups (Mennonites, etc.) (10 percent) ²	5,978
8. Total covered by private sector or church groups	17,933
9. Child Survival population group (5-8)	41,842
10. Average number of children/women covered per PVO/contractor (see below)	6,974

Table 11.9

AID Funded PVOs & Contractors in Health and Child Survival Programs³

<u>PVD/Contractor</u>	<u>Counties</u>	<u>Annual</u>	<u>Total Funding (BS)</u> ⁴
Project Concern	2	2 yrs	\$ 1,784 millions
Project HOPE	National	2 yrs	\$ 1,403 millions
CARE (Water & Sanitation)	Orange Walk, Corozal	4 yrs	\$ 2,080 millions
Pragma/MCD ⁵	National	5 yrs	\$ 14,000 millions
Breast is Best	National	3 yrs	\$ 124,000
CARE/MCH	Orange Walk, Corozal	2 yrs	\$ 820,000
TOTAL			\$ 20,211 millions
Total Years of Funding			18
Average Years for PVOs/Contractors			3
Average Funding per year			\$ 6,737 millions
Average AID Funding per capita in health and child survival Population Group (41,842 divided by \$6,737 million)			\$ 161
Funding for health and child survival population group by MOH (50% of public health program annual budget) ⁶			\$ 1,275 millions
Average Funding per capita by MOH for health and child survival ⁷			\$ 30
Average per capita funding by MOH for all publicly provided health services (1987-88 budget) ⁸			\$ 65

Notes for Tables II.8 and II.9

1. The AID-financed Belize cost study (Raymond, *et. al.*, 1987) calculated that 44% of total national health expenditures were privately financed. The team estimates that for child survival services, approximately 20% are provided through the private sector. In some areas, such as Big Creek, the private sector now provides almost all primary health care services for 6,000 people. Moreover, in no population is it possible to provide 100% health coverage. In the U. S., for example, the Bureau of Community Health Services, Department of Health and Human Services, estimates that some 3% of the total population is unreachable. Thus, the 20% figure applied to the total at risk population in this exercise is rather conservative.
2. MOH sources estimate that church groups cover 10% of the population with primary health care services. Because these services tend to be provided free of charge, such as with the MOH, they are popular with the people--particularly because church clinics are well-stocked with medical supplies and drugs. In some clinics, such as those operated by Mennonites, utilization is higher than in MOH clinics.
3. Figures taken from 1987 health and child survival reports filed by USAID/Belize to AID/W, with the exception of Project Concern, a recently funded project by the FVO office in AID/W. Project HOPE funds have been updated to 1988 level.
4. Figures only include AID funding, while excluding Government of Belize funds, and grants from CIDA, UNICEF, PAHO, Rotary Int'l, etc. Figures include matching grants/contributions from FVOs.
5. The Pragma/MCD project is conducted both through the Ministry of Health and the Ministry of Natural Resources. Its funds are targeted towards water and sanitation projects, and thus not exclusively to the population group at risk for this exercise.
6. The MOH 1988-89 budget does not make a distinction for child survival programs. Rather, it allocates 17 percent of its budget for public/preventive care, which includes, *inter alia*, child survival programs.
7. Approximately 50% of the MOH budget for public/preventive health care is allocated by the team to the 41,842 population considered as the group at risk in health and child survival programming rather than to the entire population.
8. MOH budget in 1987-88 was B\$11.398 million for a population of 175,153.

N.B.: This exercise is meant to be illustrative in the absence of detailed MOH expenditures in child survival/primary health care programs. It does suggest, though, an excessive concentration of resources on a particular population group. For instance, taking the AID funded per capita of B\$161 and adding to it the GOB per capita expenditure of B\$65, the total per capita (AID + GOB) for this population is B\$226. Adding in other donor funding (CIDA, UNICEF, PAHO, Rotary Int'l, etc.) would, of course, increase this per capita expenditure even higher.

initiating this policy dialogue USAID/Belize staff were creative in their use of technical assistance to: a) conduct a field survey in 1986 to determine access points for alternative financing mechanisms; b) following this up with a National Cost Study, which provided the MOH with critical information for revision of the tariff schedule, and provided the EEC with a basis for determining the potential recurrent costs of the new hospital; c) sponsoring a Finance Seminar for intersectoral government groups; and d) designing an outpatient clinic for the Banana Control Board in Big Creek. This clinic described above operates on a private, fee-for-service basis, and has effectively removed 6,000 people from MOH covered primary services.

Thus, these recent initiatives, along with AID's long-standing commitment to the extension of primary health care services, provide USAID with a legitimacy and credibility to engage the government in a policy dialogue on national health care financing.

The nature of this dialogue is discussed in Section V, Recommendations. In reading the recommendations on health care financing, the team wishes to emphasize that it is not encouraging USAID to become involved in the recurrent cost financing of curative care services, whether at the new hospital or through outpatient services. Rather, the team is suggesting that the comparative advantages the U.S. health care industry has in the provision of technical assistance for the implementation of cost recovery schemes, cost containment measures, hospital management and patient utilization, health insurance and socially financed schemes, can be applied to the Belizean context. Nor is the team recommending that this type of assistance be rendered through long-term resident contractors. The Banana Control Board example demonstrates how well-targeted technical assistance can yield effective results, both for the Ministry of Health and the private sector. We believe that Belizeans only need to be shown the way, as in Big Creek. Then, they can carry on and request additional technical assistance when and if needed. Throughout the field visits, whenever the issue of the new Belize City Hospital came up, this question was posed: Will a new hospital provide the stimulus for fresh and innovative thinking on financing, or will we have simply the old hospital, and all that implies, housed in a new building? The answer to that question will determine the pace and pattern of development in Belize's health sector for decades to come.

For the period 1988/89, World Bank estimates that external funding to the health sector will amount to B\$38.3* million.* The Ministry of Finance calculates that for the period 1987/88 - 1990/91, UNICEF, AID, CIDA, and UNDP have already committed B\$51 million to ongoing projects in the health sector.**

This level of donor funding contrasts sharply with that in the Ministry's annual budget. (B\$11.4 million in 1987-88). Such a contrast makes it difficult for the Minister of Health to state the case to the Minister of Finance for additional internally generated tax revenues, particularly when other line ministries are not faring as well with the donor community. Moreover, there is scant evidence that this level of funding has led to any self-sustaining operation. There are significant opportunities for this to occur in Belize. For instance, USAID's technical assistance to Big Creek totaled \$13,240 U.S. and this initiated a private outpatient clinic that is now self-sustaining and planning to expand to inpatient services.

The Ministry of Health and the government would be well-served if USAID undertook a leadership position on national health care financing. With USAID's participation, the financing of curative care could be integrated with primary care. Without an effective curative care system, political support will be lacking for primary care and prevention. And without the latter, costs will continue to increase for the former.

E. Costs and Financing of Care

The 1987 analysis of the costs of the Belize City Hospital also included an examination of the financial structure and flows within the overall Belize health care system. This section summarizes that analysis, and supplements it with additional data on private expenditures.

1. Total resource flows

Total recurrent resources moving through the Belize health sector in 1985 were approximately B\$18 million. Of this total, 56% was accounted for by public budgets of the Ministry of Health. The remaining 44% represented private expenditures and is based on estimates from the 1981 national household expenditure survey.

Total capital expenditure in the Belize health system is difficult to determine. In the public sector, there has been virtually total reliance on outside donors for major capital

* Belize Economic Memorandum, The World Bank, April 21, 1988, Washington, D.C. p. 19

** Ministry of Finance, Government of Belize, Capital Expenditure Estimates 1988/89, p. 317

investment in both buildings and equipment. The Government of Belize does not appear to keep detailed records of donor disbursements (only of commitments), and thus actual capital expenditures are not tracked. Moreover, the value of private donations of equipment to the public health system is not calculated, and often the donation itself is not recorded. For instance, Belizeans living in the U.S. regularly make donations of hospital equipment and supplies to the MOH. In 1988, Rotary International of Three Rivers, Wisconsin, organized two shipments of hospital supplies and equipment to the MOH. Under an AID/W agreement covering freight charges, these materials were flown in by C-130 Air Force planes. Project Concern International has a matching grant with the PVO office in AID/W, in which it receives \$446,000 (U.S.) from AID and raises an equal amount from its own contributors. PCI will be importing 27 health huts (reportedly of plastic construction) for installation throughout Belize. These health huts are being contributed by a group in Canada.

In 1986/87, donor financing represented approximately 30% of the total capital costs of programs financed.

Until recently, private capital investment in the health sector was minimal. Although private services were widespread and private recurrent expenditures were significant, private providers were basically only individual physicians operating one-office practices. Recently, however, with the creation of the St. Francis Hospital and Myo'on Clinic, as well as the investment in health facilities by the banana growers, levels of private investment have increased and may exceed average public capital investment.

2. Financing sources

The recurrent costs of the Belize health sector are financed from a variety of sources. The complexity of the flow of finance in Belize is illustrated in Diagram A.

The major financial roles are as follows:

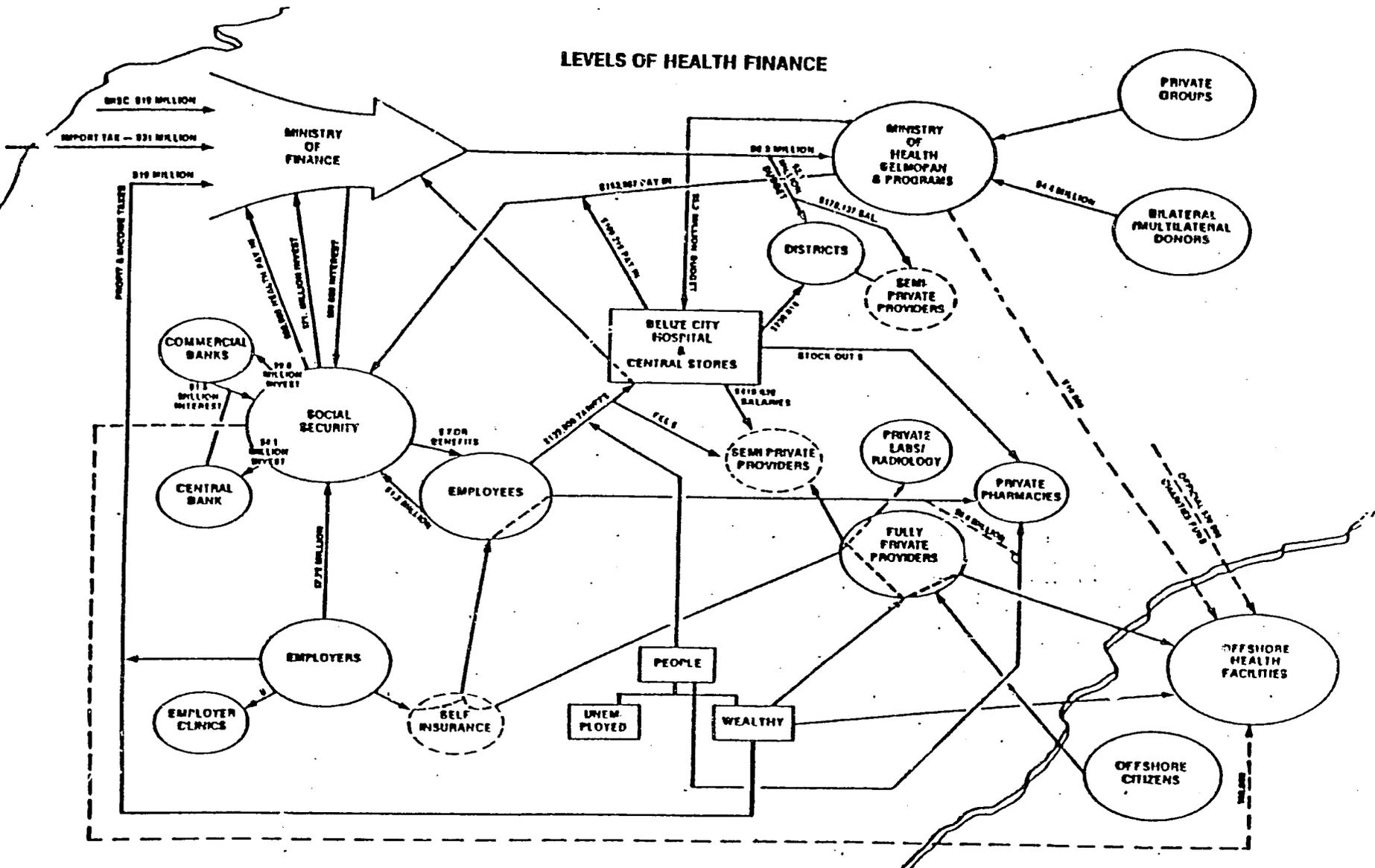
a. Ministry of Finance, which is the sole conduit source of public finance for the Ministry of .

b. Social Security Board, which, as noted earlier, provides several types and levels of finance for worker-related injuries, as well as a B\$50,000 annual pay-back to the Ministry of Finance to cover MOH treatment of enrollees. There is considerable controversy as to the adequacy of this payment.

c. Ministry of Health, which finances all services in public facilities using overwhelmingly public funds. Although the MOH is allowed (indeed, encouraged) to collect fees from patients using its facilities, this is rarely done. At the Belize City Hospital, such collections amount to only about 1% of the MOH budget, and are retained neither by the facility nor by the MOH, but are remitted directly to the general revenues of the Ministry of

DIAGRAM A

LEVELS OF HEALTH FINANCE



Source: Financing and Costs of Health Services in Belize, Raymond, et. al., p. 70, 1987

Finance.

d. Employers, who provide financing both through required SSB contributions and through their own private financing providing employees with cash to purchase necessary pharmaceuticals. It may also be more formal, however. Some employers, dissatisfied with the services at public facilities, have formally engaged private providers to service their employees on a fixed-fee basis. Others, such as the banana growers and shrimp farmers, have undertaken to organize and provide services themselves. In all cases, employees participate in sharing the costs of private services.

e. Private Providers, who are not only providing a major portion of the health services, but have begun to initiate basic forms of pre-payment for such services.

All privately practicing physicians the team talked to were enthusiastic about their prospects and were making plans to expand and/or to market special prepaid health plans or bundled services. Both of the private hospitals in Belize City reported that they were seeing about 10-15 patients per day in their outpatient clinics where the normal charge is B\$20 per visit. Both reported extensive use of their inpatient facilities for maternity, charging B\$75 per day for a semi-private room including 24-hour nursing services.

Dr. Gamero of the Myo'on Clinic said he was preparing to offer a comprehensive maternity plan for B\$1,000, which is to include 8 prenatal visits, normal hospital delivery, 2 post-natal visits, and immunizations for the first 3 months. He is planning to offer a general services (insurance) plan to employer groups at B\$15-B\$16 per month (very similar to the kind of insurance already available in the private market), and is prepared to expand his hospital by 12 more beds if the demand is there.

St. Francis Hospital is also planning to offer several prepaid plans to students and families, in which a registration fee entitles them to substantial discounts of the fees for outpatient and inpatient care.

In Big Creek, the doctor working for the Banana Control Board has been averaging 250 outpatients per month since the first of the year. He charges B\$10 per visit for consultation and B\$30 for minor surgery. Drugs and medicines he sells at his own cost. After less than one year in the position, Dr. Reddy, who used to be a government physician at a district hospital, now declares that he no longer believes that the poor are unable or unwilling to pay for health care. His income in the first two years in the job is guaranteed by the Banana Control Board to be at least B\$60,000, but he is confident enough of the success of the practice that he is talking about wanting to construct a 12-bed private hospital in the area.

f. Private Ancillary Services, particularly pharmacies and laboratories (both discussed previously), which service and receive payment from both the private health care system and the health facilities/budgets of the public system.

g. Foreign Facilities, which provide medical care financed by any of four sources: individual private consumer; those not treatable in Belize (principally burn cases); the MOH itself; and, the Official Charities Fund of the government which finances needed foreign medical care for Belizians unable themselves to afford the costs entailed.

h. International Donors, both governmental and private, who finance both capital and operating costs throughout the health care system.

III. PERFORMANCE OF THE HEALTH CARE DELIVERY SYSTEM: ISSUES AND ANALYSES

A. District Health System

Any effort to contain health system costs and re-program available resources to high-demand services will need to come to grips with resource allocation discrepancies at the district level of the Belize health system.

Each of the six districts has one hospital, with the exception of Cayo which has two. These district hospitals account for 26% of government health care costs but run at occupancy rates as low as 17%. The highest occupancy rate in the district is only 46.5% (Orange Walk). Maintaining this excess capacity in the districts, in light of underfunded disease control programs, for example, is an obvious burden on available resources. This is particularly true since nearly half of the district hospital admissions are maternity cases, which could be handled with smaller, less personnel-intensive facilities.

The 31 public health centers in the districts show considerable variation in efficiency with some clearly delivering more services for equal money (see 1986 Health Cost/Financing Report).

Again, careful assessment of resource efficiency at the district level may be able to generate costs savings, improve/expand services, and resource reallocation to other health service areas.

B. The Belize City Hospital and the Ministry of Health Budget

Virtually every policy and program issue to be faced now and in the foreseeable future by the Ministry of Health is affected by the prospect that the present Belize City Hospital will be replaced by a new, modern facility. The GOB is currently in the final stages of negotiating a loan and grant in the amount of ECU 8.6 million* (now worth about B\$19 million) from the European Economic Community (EEC) to help finance construction of Phase I of the new hospital, which will include (according to current plans) an intensive care unit, three operating theatres, a pharmacy, a laboratory, and wards for 118 beds and all relevant support services. The GOB has committed up to B\$2 million in additional funding for the project, which is scheduled for groundbreaking in early 1990.

Phase II of the project, which is ultimately expected to add wards for another 100 beds to the Phase I structure, will not even be considered within the next five-year development plan.

*ECU = European Currency Units

The timetable for completion of Phase I of the new hospital was reported by the Ministry of Economic Development to be as follows. A hospital planning specialist and an architect have been hired by the EEC and are currently engaged, with the GOB Hospital Planning Committee, in an iterative preliminary design process which is expected to end by February, 1989. Preparation of final design and construction drawings will take another 3 or 4 months; preparation of tender documents will take 2 more months. If tender is then offered by September 1989, the Ministry expects it will take another 5 months, at the earliest, before construction can begin, in February, 1990.

Although the EEC has committed the funds for the loan and grant financing of the project and the GOB has evidently committed itself to the project, the issues of staffing and recurrent cost financing have not yet been addressed. It will be the responsibility of the Hospital Committee working together with the Minister of Health to make the final design one which does not exceed the capacity of the MOH either to staff or to finance over the long-run. The Ministry of Finance reported that there can be little expectation that the MOH budget will be increased during the next five years in order to accommodate higher costs of operating the hospital. The development priorities of the government make it more likely that the MOH budget will be cut.

It has long been recognized that the present Belize City Hospital is a substandard facility, and that a new structure is needed for the country's national referral care hospital. Even if currently available financing is sufficient to complete the hospital, however, the tasks and challenges to be met by the Ministry of Health and the GOB in the process of executing the project are formidable indeed. Carrying out the tasks required will undoubtedly put severe strains on the ability of the Ministry to manage the national system of health care services, and to maintain, let alone improve or expand, its public health programs. It seems virtually inevitable that the currently high proportion of Ministry of Health resources consumed by the Belize City Hospital will go still higher, after the building is occupied, and that it will be even more difficult than it is now to finance and manage the important public health programs that should be high priorities of the Ministry. The issues that need to be addressed can be classified into two general areas: (1) financing the construction and operation of the hospital, and (2) training, organizing, and managing the personnel who will work in it. How well these issues are dealt with BEFORE the hospital is completed will determine in large part not only how well the hospital functions but also how well the rest of the Ministry's programs will be financed and managed.

Financing the New Belize City Hospital

The Ministry of Economic Development estimates that up to B\$21

million is now committed by the GOB and EEC for building and equipping the new Belize City Hospital, Phase I. In addition to the B\$2 million to come from the GOB, the EEC has committed B\$12.5 million for construction, an additional B\$4.6 million for equipment, and B\$1.8 million for consulting and design costs. Since it could easily be 18 months before groundbreaking for construction, there is some question whether the available financing for construction will be sufficient. The Belizean dollar is tied to the U.S. dollar, and if the value of the dollar falls against the ECU, the available financing, when converted to Belizean dollars, will shrink. It was reported to the team that both the GOB and the EEC consultant are uncomfortable with the construction estimates and anticipate that additional capital financing may be needed before the hospital can be opened.

Although considerable efforts are planned to solicit donations of hospital equipment, it is not clear whether this will result in appreciable savings from not having to buy new equipment, or whether any savings could be applied to cost overruns in the construction phase. The MOH is concerned that the equipment in the hospital be easily maintained and repaired, and, in order to ensure that that is the case, is requesting that it be compatible with equipment already in place in Belize. Donated equipment may not ultimately be used if there are special staffing requirements associated with its use, or if repair and maintenance arrangements are expected to be a problem.

In any event, financing construction of the hospital may be the most easily solved of the looming financial difficulties posed by the new hospital. Financing the operating costs of the new hospital will very likely result in a constant, persistent drain on the Ministry of Health's budget--unless some means of cost containment/cost recovery are instituted to limit the hospital's impact.

The magnitude of the problem can be seen in the fact that the current budget directs more than half of the Ministry's operating funds to the Belize City Hospital--roughly B\$6.3 million of the B\$12 million budget. The new hospital will have increased staffing requirements from a 6-bed intensive care unit, from an additional operating theatre, and possibly from an upgraded laboratory and pharmacy. The team estimates that the new hospital will increase operating costs by a minimum of 20%, an increase which will be greater if desirable and achievable management efficiencies are not realized. This 20% increase will require the MOH budget to be increased by about 13% for that purpose alone. If recent government allocations to the MOH are any indication, this level of required funding would not come from additional budgetary allocations but from cutbacks in other programs of the MOH. Alternatively, the budget limitations might actually lead to an underfunding of the new hospital's optimal staffing requirements, which might result in a situation which denied Belize the opportunity to improve hospital services as well as the hospital building.

Possible cost recovery options include: designating certain wards as private wards to be used by private paying patients; adjusting the schedule of charges to reflect more closely the actual costs of delivering the services; leasing part of the hospital to private physicians in return for their guarantee to treat a certain portion of patients for minimal or no charge; and selling the land on which the current Belize City Hospital stands to finance construction and/or operation of the hospital, perhaps Phase II in particular. The principle to be sought in the design of any cost recovery method is not just that money be collected, or that costs be minimized, but instead that the incentives that are installed by the method serve to lead to socially desirable consequences, such as the availability of effective and efficient tertiary hospital care in Belize.

Staffing and Managing the New Belize City Hospital

When the new hospital is completed, current plans are that at least some part of the existing Belize City Hospital facility will continue to be used. After demolishing the more delapidated parts of the 186-bed facility, the remaining structure will have 97 beds. Upon completion of Phase I of the new hospital, all surgical and maternity cases will be treated at the new hospital, while all medical cases will remain at the existing hospital. At the completion of Phase II of the new hospital, all medical cases will be treated at the new hospital, and the existing hospital will be used to accommodate geriatric and psychiatric cases currently being treated in other facilities.

Phase I of the new hospital will house all the treatment and support facilities which will be needed by the full 218-bed hospital that is envisioned when Phase II is completed. It is anticipated that these service facilities will increase overall hospital staffing requirements even before Phase II is completed. Although full staffing of all hospital services will probably not be needed for Phase I, some increase in staff will be needed by expanded facilities for the Central Sterile Unit and for the Hospital Equipment Repair Unit. Added staff will be needed for one additional operating theatre, although this third theatre may not open until Phase II is completed. New staff will definitely be needed for the 6-bed Intensive Care Unit.

Since the final design on the hospital is still several months off and final decisions on service configurations have not yet been made, no steps have been taken to finalize staffing needs and to start planning for the recruiting and/or training of the staff to be needed. For those services that are already known to be required in the new hospital, it is not too early to begin training, or at least planning for training, for the kinds of staff known to be needed. If it is true, as reported, that an ICU will definitely be included in the final design, steps toward the planning of ICU nurse training should begin as soon as possible.

It is also not too early to begin planning for the organization and management requirements of operating a national referral hospital housed in two buildings some distance apart--one a modern building and one an old building. One can anticipate that supervision and management of the nursing staffs could be a major problem under such a circumstance, since there will be such a wide divergence in working conditions across the two facilities. Such a planning effort might reveal other significant supervisory and management difficulties with the two-building approach--difficulties that need to be addressed now in order to avoid severe problems later. A particular focus of early planning exercises should be an examination of how the requirements of operating the new hospitals will impact the existing organizational and managerial structure and processes of the Ministry of Health. Successful operation of the new hospital will depend critically on the careful planning of all stages of the transition from the current way of running the hospital to the way it is decided the hospital ought to operate in the future. UNDP/PAHO assistance in health management planning could provide useful resources in helping to address some of the hospital planning and management issues involved in making the transition.

C. Costs and Financing of Health Care

1. Issues

Salient characteristics of the costs and financing of Belize's health care system, as described in the previous section, raise a series of policy issues for the government. These issues can be summarized as three interrelated questions:

- (a) Does the system provide sufficient equity of access to health care benefits?
- (b) Does the system produce health care services efficiently and effectively?
- (c) Does the system of paying for the services provide incentives for providers and patients to use the system appropriately, that is, to avoid unnecessary use and waste of resources?

The preponderance of evidence accumulated by the team would indicate an indefinite answer to the first question and negative answers to the second and third. The team's analysis of the evidence indicates that it is the system of paying for services, largely through tax-financed government-operated acute care facilities, while intended to provide equitable access to care, instead encourages a number of unintended and undesirable consequences. Among the most significant are:

- o equitable access to basic health care is compromised both by underfunded services evidenced by periodic shortages of drugs and

supplies and by private practice by government doctors in government facilities;

o equity of access to care is to a large extent a moot issue in any event when so many Belizeans do not choose to patronize the system when they are sick; the large number of Belizeans who leave the country to get specialized medical treatment is testimony to their relatively low valuation of the services available within Belize;

o low and largely uncollected user charges at government hospitals encourage inappropriate and wasteful use of the services by patients, many of whom may be willing and able to pay;

o government physicians who are permitted private practice in off-duty hours are in something of a conflict-of-interest position viz a viz patients coming to public facilities who are nevertheless willing and able to pay for services; they can get preferential treatment one way or another; patients with less ability to pay are more likely to be discriminated against;

o the general lack of private third-party financing for health care means that, among those who are able and willing to pay for their health care, those who fall sick bear the entire burden of financing their care at the time of illness; pooling the risk through health insurance would be of great social benefit; and

o the use of constraints on the government health budget as a means of controlling costs in a largely "free" socialized health care system means that quality and effectiveness of services is usually sacrificed in the name of preserving the principle of equity of access; when drugs are not available, however, equity of access in principle retains little meaning in its application.

2. Analysis

Addressing the above issues can be approached by recognizing that the system of paying for services can be adjusted so as to have many of the desirable effects in improving efficiency and effectiveness without sacrificing true equity of access. In fact, to the extent quality and effectiveness of publicly-operated health services can be improved through finance reforms, equity of access can be significantly improved.

The most desirable financing reforms center on two major issues: first, broadly based collectivized financing of health care (health insurance, private and/or public); and second, pricing of publicly-operated health services appropriately relative to costs and linked to nominal charges to patients.

A comparison of Belize's Social Security system with others in Latin America and in Central America (See Table III - 1) reveals that Belize's system has not yet begun to use this financing

TABLE III - 1*

GNP Per Capital and Population Coverage for
Medical Care under Social Insurance in Sixteen Countries, 1976-1980

	GNP per Capita (1977 US\$)	Year	Population (millions)		% Covered
			Total	Covered	
<u>Seven relatively high-income countries</u>					
Argentina	1,730	1980	27.1	27.7	80%
Brazil	1,360	1978	115.4	95.8	83%
Costa Rica	1,240	1977	2.1	1.7	82%
Mexico	1,120	1980	71.9	40.3	56%
Panama	1,220	1979	1.9	0.9	47%
Uruguay	1,430	1979	2.9	1.4	50%
Venezuela	2,660	1978	13.1	4.0	30%
Subtotals			234.4	165.8	71%
<u>Nine relatively low-income countries</u>					
Bolivia	630	1978	5.3	1.4	26
Columbia	720	1978	25.6	2.6	10
Dominican Republic	840	1977	5.0	0.2	4
Ecuador	790	1979	8.1	0.4	5
El Salvador	550	1978	4.4	0.2	5
Guatemala	790	1976	6.4	0.9	14
Honduras	410	1977	3.3	0.2	7
Paraguay	730	1980	3.1	0.4	13
Peru	840	1979	17.3	2.0	12
Subtotals			78.5	8.3	11
Totals for all 16 countries			312.9	174.1	82

*Dieter K. Zschock, Ph.D., Medical Care Under Social Insurance in Latin America, Latin American Research Review. Volume 21, Number 1, p. 101, 1986

mechanism to fund medical care, in general terms, for its members. The current coverage for employment-related injuries covers only a small fraction of all illnesses suffered by its members. Since the breadth of coverage of the population is substantial (more than two-thirds of the population if dependents are included), the opportunity for developing a fund to finance a catastrophic (i.e., hospital) health benefits plan is substantial. The opportunity can be seen in several characteristics of the current system:

- o Current SSB members can use government health facilities at little or no cost for non-covered injuries and illnesses (i.e., not related to employment). But many do not, preferring to visit private doctors and hospitals, either in Belize or abroad, paying the substantial costs out of their own pocket. Those who do use government facilities often experience long waits, lack of supplies and medicines, and preference given to patients paying (officially or unofficially) to government doctors for private service. This situation could be improved by collectivizing the purchasing power of patients, either through privately-organized or publicly-sponsored health insurance, and by setting prices and reimbursement policies in ways that serve to improve access, quality, and efficiency in the delivery of services.

- o The structure of the Social Security contributions is highly regressive in its impact on workers' take-home income; lower-income workers generally pay a greater share of their income than do higher-income workers. The payroll as a percentage of earnings rises with earnings, but peaks at such a low earnings level (B\$110 per week), that, for many workers (in Category 4 of earnings), the higher their earnings, the lower the fraction of earnings contributed to Social Security. This feature becomes even more regressive as inflation pushes incomes higher, while the fixed taxes remain unchanged. A more progressive, and thus more equitable, approach would be to make the tax a percentage of earnings rather than a fixed amount. While this may be administratively complex to implement and confusing to some workers, it would be an essential prerequisite to improving equity in Social Security financing and to raising the funds sufficient to finance better quality hospital care in both public and private facilities.

- o Even with the relatively small contributions asked currently of workers, the SSB funds are all running large surpluses. Rough calculations by the team indicate that a relatively modest change in the employment-related injuries flat tax (B\$1.50 per worker per week) to a percentage-based tax of 1%-2% (still paid by employers) could finance a significant hospital care benefit fund for employees and possibly dependents. Payments made by this fund to government hospitals could significantly reduce the budget demands by MOH, effectively replacing the current general tax revenue financing of hospital services with a user-paid earmarked tax.

o To encourage the development of a medical care market in Belize that can compete with those that currently attract many Belizeans abroad, the government could subsidize the development of a local health insurance industry by making premium payments in employer-based health insurance schemes deductible from personal income subject to income tax. This policy should also be applicable to any Social Security taxes allocating to health insurance. As part of government's policy in this area, the GOB could regulate the kinds of benefits and reimbursement policies that these plans could provide, making them complementary with Social Security's medical care plans and supportive of the GOB's desire to maintain a medical care system accessible to all regardless of ability to pay. While one requisite part of this policy would be higher charges in government hospitals, payments of these higher charges would come largely from third-party reimbursements which would (1) not pose hardship on any one sick individual, and (2) would help to finance a higher level of service quality in government facilities. At the same time, private medical care services could be encouraged by allowing insured individuals to choose private providers which would be reimbursable only with payment of some substantial out-of-pocket copayment.

Better social financing of health care through insurance mechanisms would help to finance expansion and improvements of both private and public sources of care in Belize with funds that would otherwise largely be spent on specialized care outside the country. If, at the same time a new health insurance fund or funds were being created, government instituted higher charges in its hospitals--charges linked to actual costs of providing the services--additional financing of government-sponsored care could be obtained which could assist in improving the quality of care at government facilities. This could be done without the poor bearing an undue burden if the scale of charges were set on a sliding scale and strictly collected. The opening of a new Belize City Hospital will be an opportune time to reform the pricing of hospital services since both its costs and popular expectations of improved service will rise simultaneously. Rising incomes in Belize can also be expected to divert increasing attention and money to a growing private sector. Comparison of its quality to that of the new Belize City Hospital will be favorable only if additional financing can be found for the expanded and improved services that are envisioned for the public facility. Total reliance on tax-based financing of government hospitals will very likely lead to a two-tiered system of health care in Belize, with those who can afford to pay being able to obtain higher quality private medical care and those who cannot afford to pay having to settle for lower quality public medical care.

Milton Roemer, a U.S. expert on international social security systems, has stated that: "in countries of all types -- industrialized and developing, capitalist and socialist -- the social insurance mechanism is virtually an inevitable stage in the political and economic process of attaining effective distribution of personal health services to a total population".

Table III - 1 shows how Belize stands today alongside its Latin American neighbors in 1977 on social security coverage. In 1987, Belize had a per capita income of B\$2,255 (\$1,128 U.S.). This figure compares favorably with several of the high income countries in this Table, as well as all of the low income countries at that point in time. "Within these states, social insurance coverage now provides medical care for over half the region's population. Social insurance and public health services now account for roughly equal governmental health care expenditures as proportions of GDP."*

D. Foreign Donor Involvement in the Belize Health Sector

Foreign assistance in the sector is relatively new to Belize, since AID and other donors have begun important initiatives only within the past five years. Prior to that time, private voluntary organizations and church groups were active but their scope and impact was relatively limited. With the advent of multiple new sources of assistance and program interventions, the country faces both challenges and pitfalls.

In the health sector, effective use of donor assistance is constrained by many factors. Foremost among them is the limited absorptive capacity of the public sector. Until recently the organization and management capacity of the Ministry of Health was extremely limited. Staffing of facilities, particularly with qualified nurses, has been a chronic problem. The overwhelming majority of the budget is devoted to hospitals, and whatever limited funds are allocated to preventive and public health services are usually too little and too irregularly spent to accomplish any consistent set of objectives.

In this environment, the usual development assistance model--providing certain key technical and fiscal resources to catalyze key counterparts in line operations of the Ministry--has had limited use and effectiveness. Even the National PHC Committee, which is intended to centrally plan and coordinate local and foreign PHC services, is only an advisory body, and is frequently circumvented by those able to go directly to the Prime Minister.

The multiplicity of sources of foreign funding in the health sector--donor and private--and the other loose ties between these resources and MOH programs and budget priorities, create a challenge for managers trying to optimize resource utilization.

* Ibid., p. 119

While multiple streams of health resources clearly increase the overall level of care available in Belize, two significant problems are also created. First, and possibly most seriously, there emerges the danger of dependency upon certain kinds and levels of aid. AID-financed water and sanitation and child survival projects are providing a level of funding which, while it does not actually fund salaries of Belizean officials, does in fact support operations--making the GOB dependent on that funding for continuation of the operations. Second, the numerous PVOs which operate in the peripheral areas, using their own sources of medicines and supplies, has conditioned the populace to expect a level of service and care from non-government agencies which is not now, and probably cannot in the future, be sustained by the government.

These two results both impact on the morale and productivity of MOH staff. The ability of government personnel to maintain, let alone improve or expand, the public services may in fact be compromised by the tendency of donors and PVOs to create an unintended dependency relationship with the recipient.

Foreign donor involvement in the health sector in Belize has seemed to focus predominant emphasis on the contribution of technical knowledge in the health field, particularly in primary health care and child survival. There has been, it is true, a substantial amount of financial aid, and while this has not formally supported a large portion of the total government budget allocated to health, it has financed a broad effort to expand and improve PHC service, although mainly through PVOs not directly through the MOH.

Encouragement by donors of the Belizean government's planning more effective use of its resources for health, however, has been less characteristic of donors' contributions. While there is some evidence that that is the way the government would prefer to receive aid (that is, without donors meddling in sectoral resource allocations), it is also clear that, among the many donors who are apparently anxious to remain donors to Belize's health sector, few or none have addressed the emerging issues of effective resource use in this sector.

While this is a controversial area for both donor and recipient, foreign donors have a special responsibility to the recipient to provide reasonable assurance that the assistance given does not have ultimate unanticipated negative consequences. Giving attention to such a responsibility is especially urgent in the present context of the Belize health sector, because the multiplicity of prospective donors tends to focus Belizean interest on the short-term rather than on the long-term impact of proposed

aid.

The real danger for Belize is that an emphasis by donors which ignores the need to give attention to the effectiveness of resource use in the health sector could inadvertently encourage Belize toward development of a high-cost, hospital-dominated, urban-centered health system that is ineffective in delivering basic health services to the majority of the population.

This is not to say that donors will have intended or even condoned such an outcome; to the contrary, it is possible in the context of the Belizean health donor community to believe that many of the priorities and inclinations of the donors are shared by the Belizeans simply because they state similar goals in their development plans. The GOB health authorities, however, do not seek to disguise the real priorities and directions of the health system, and since their total national health needs are great, one cannot fault them for accepting what donors are willing to provide, regardless of the rationalizations donors might attach to such assistance.

The team believes, however, that AID, as a major donor, must come to grips with the fact that this simple conclusion of the World Bank's Health Sector Policy Paper (1975) applies to Belize:

The evidence is ample that, in most developing countries where cost-effectiveness and equitable welfare distribution are regarded as important national goals, health expenditures are misallocated.

Whatever other donors may do, AID should be able to achieve some limited benefits to the Belizean health system, which is the goal of its assistance, bringing to the attention of the government the changes that are needed -- and that are possible -- in current patterns of resource allocation to health.

Moreover, whether AID is ultimately successful in any assistance program that might focus on resource allocation patterns also might depend on the confidence the GOB has in AID's health development experience and expertise, and on its ability to provide substantial contributions of international experience.

Donor financing of child survival as described above in this report, because it is requested to supplement the limited funding in this area by the GOB, in effect involves the assumption by donors of the responsibility for present and future recurrent costs in this area. In the past, such costs have been considered, by both the recipient governments and donors alike, as the proper responsibility of the government, no matter whether such costs were related to hospital care or to PHC. Sufficiency of operational financing, of course, has been a conventional prerequisite for capital investment decisions, and is currently considered, rightly, a prime issue in the decision to accept donor support of constructing a new BCH. But, financing the current child survival

and other PHC programs should be properly considered the financing of (otherwise under-funded or un-funded) program operations.

In the absence of significant changes in the allocation and use of health resources in Belize, AID's continued participation with other donors in child survival and PHC financing would merely encourage the Belizeans to devote more and more funds toward hospitals while donors concentrated on PHC. Such a response would be understandable, but its long-term consequences would not be in the interest of Belize.

IV. FINDINGS

Introduction

During the time spent in field interviews with officials in both the public and private health sector, the team collected an enormous amount of information on the operation of Belize's health system. Subsequent analyses in Washington served to pull this body of anecdotal and published knowledge together into a coherent whole, and it became possible to draw up a list of major findings.

The enumeration of these findings is not meant as an indictment of the government's health care system, which has experienced remarkable growth since independence. The findings do suggest, though, that there are forces at work which are contributing to fragmentation of the system rather than to continuing progress toward effectiveness and equity. The positive initiatives stimulated by substantial government investment in health care delivery since independence may now be faltering. The size and complexity of the public and private system (relative to population size) have reached a point where the realization that planned benefits from the considerable investment have not always met established goals and objectives is perhaps somewhat obscured by the swiftness of change.

The government's main objective in developing health services is to continue to promote and protect the health of the people. The achievements of the past have created an impetus for the future extension of curative health services to a wider base of the population; however, if present trends continue, the evolving system will not only deny these benefits but breed more inequity and unnecessary cost for all Belizeans. The low-income population in general, and those in rural areas in particular, will bear most of this burden when the anticipated benefits of this national investment in health are not broadly realized.

These findings, together with the recommendations which follow in Chapter V are being set forth by the team as a set of signals to engage decisionmakers in a policy debate on appropriate health financing strategies within the framework of accepted national economic and social values.

A. Health Needs, Resources, and Constraints

o Morbidity and mortality patterns are those of a developing country in transition. Environmental health is poor, communicable diseases are a problem, but life expectancy and infant mortality is low; 56% of the population resides in urban areas and suffers from chronic diseases of more advanced economies. Growing incomes stimulate demand for personal, acute care services required to treat these diseases. The result is extreme pressure from all sides on the government health system to meet rapidly expanding service requirements generated by exploding health needs. The

government's limited budget supplemented by donor assistance cannot even keep up with what it used to be able to accomplish.

o Human resources required by the health system in place are in limited supply. While physicians are increasingly available to fill government slots, the shortage of trained nurses is having a negative impact at all levels of the system.

o Budget constraints limit the ability to fund maintenance, fuel costs, and routine supplies, equipment, and medicines. Facilities with low stocks of basic drugs suffer low utilization and patients are forced to pay out-of-pocket for needed medicines and consultations; while salaries may continue to be paid to establishment personnel, lack of complementary inputs means that the quality and quantity of services are reduced.

o Government health facilities are in need of rehabilitation or replacement. The most obvious needs are for a new hospital in Belize City, and the upgrading of district hospitals and rural health centers. The process of planning for the replacement of the current hospital, however, is raising issues of cost, financing, and management which have long been neglected and which cannot be solved by simply constructing a new hospital building. It is more likely that the process will ultimately aggravate the current difficulties.

1. Chronic Disease

o Changing patterns of morbidity and mortality as well as growing numbers of elderly people will require the MOH to examine alternatives for providing and financing medical care in the treatment of chronic diseases. In 1987, those 60 years of age and older were 11% of the population; this proportion is almost double that of 1980, when they represented 6.5% of the total population. Physicians interviewed noted that an increasing portion of chronic diseases are seen, including hypertension, diabetes, and cardiovascular diseases. Case management protocols, which include public health activities such as hypertension education programs, are not yet evident, though the potential effect on curative care cost containment could be considerable.

2. Refugees and Health

o The refugee/illegal alien population is growing, but its exact size is uncertain. Estimates of the number range from 15,000 to 40,000. There are concerns that the health problems of this group are significant, and that, with its suspected higher than average fertility rate, it will make increasing demands on the government's health care delivery system. Emigrating from other Central American countries, notably Guatemala, Honduras, and El Salvador, this population could be contributing to increasing incidence of malaria, and other communicable and infectious diseases. However, neither the MOH nor PVO/church groups have health data on the

epidemiologic situation within this potentially large and growing population.

3. Malaria

o The malaria control program was originally designed to be sustainable by the government after four years. Although it has received from USAID a no-cost extension to seven years, the MOH has stated that it cannot continue the program with MOH funds after USAID phases out its funding. Malaria is endemic in Belize and is the leading cause of morbidity in rural areas, responsible for significant loss of workdays, and, hence, reduction in labor productivity. This is particularly evident in the banana, citrus, and cocoa industries. A random review of blood slides, covering two communities in Mango Creek (Stann Creek District), revealed 15 cases of malaria out of 80 slides taken. For one banana farm in July, 30 of the 62 workers reported sick at one time during the month.

4. Vital Statistics

o The reporting of vital statistics from the outlying regions to the center is unreliable, incomplete, and inconsistent. The size of population groups at risk for certain diseases, i.e., malaria, are not known, even approximately. Births and deaths registration are not functions of the MOH, even though 80-85% of all births take place in hospitals. The Attorney General in the Ministry of Home Affairs has this responsibility. The public health nurse in rural areas has to collect this information from local registrars.

B. Costs, Financing, and the Role of the Private Health Sector

o Costs of hospital services account for about 65% of the MOH recurrent budget. All other programs are financed by the remainder and most PHC, environmental health, and other public/preventive health care services are woefully underfunded. Without donor assistance, the MOH does not have the fiscal or human resources to fund anything more than modest programs in the public/preventive health area.

o There is a growing perception among the public that the MOH hospital system is a provider of last resort. Public patients are routinely bumped by private patients in the operating theatres of BCH. District hospitals of the MOH report occupancy rates of less than 35%. Outpatient services are a direct function of the availability of drugs and medical supplies; that is, they are, for the most part, available on an irregular basis. An increasing number of people elect to seek health care services in Mexico, Guatemala, and the United States.

o Before GOB begins construction of a new Belize City Hospital, a number of tasks must be addressed:

-detailed planning for staffing and managing the hospital,

- along with a plan for training the staff for new services, procedures, and transition;
- accurate projection of future operating costs;
- review of fee schedule and collection procedures;
- review of overall distribution of staff and support resources among the primary, secondary, and tertiary levels;

o Government estimates for construction of the new Belize City Hospital are B\$21-22 million for Phase I. This Phase will bring 112 beds on line with an additional 100 to come under Phase II as funds are available. Operating costs are typically expected, at a minimum to run at a level of at least 25% of construction costs, or B\$5.28 per year. When this hospital is completed, the MOH expects to reduce the present capacity of the old hospital from 186 to 97 beds, and to use these beds for geriatric and mental health patients. In 1986, operating costs of the old hospital were calculated at B\$ 6.3 million. Reducing the number of beds to half would leave an operating costs of approximately B\$3.1 million per year. Thus, by adding together the operating costs for both the new and old hospitals, the government can expect to have an annual operating cost of B\$8.48 million when construction is completed. This is 70% of the MOH's 1988/89 proposed national health budget.

o This operating cost projection represents a minimum figure based on current cost centers for medical care in the old hospital. The new facility, however, will have higher cost centers. For instance, it will have a six-bed intensive care (ICU) unit. The MOH anticipates that a staff of 24 ICU nurses will have to be trained for this unit to operate under optimal conditions, and 12 under minimum conditions. However, there are presently no ICU nurses in Belize. In order to train nurses for this unit, they would have to be recruited from the present cadre and trained for a minimum of one year at the University of West Indies. Thus far, the MOH has not developed plans to do this. On the basis of these and other added staffing needs, the team's rough estimate is that the BCH's current operating costs will rise by at least 20% when the new hospital is opened.

o A related problem is the difficulty in retaining nursing cadre. During the week of the team's visit, four BCH nurses had resigned and another six had been recruited for jobs in the U.S. Moreover, when there are shortages in the field, they are filled temporarily by BCH nurses. Thus, there is concern within the nursing profession that once ICU nurses are trained, they will become prime targets for recruiters from the U.S.

o The number of nurses in service has been constant at 230 for three years, even though the School of Nursing has graduated about 20 nurses during that time. Yet, with chronic illness rising--requiring an increased number of nursing days per bed in service, and pervasive recruitment from the U.S., this number can be expected to decrease even further as demands for nursing services

increases.

o With a relatively urbanized population (56%) and a growing wage-based economy (average per capita income was \$1,000 U.S. in 1986), Belize's private health care expenditures are significant. Many who need specialized acute care services and who can afford to pay for them, leave Belize for Guatemala, Mexico, or the US to get medical care; those who cannot afford to travel or who have uncomplicated ailments will spend out-of-pocket for private consultations, medicines, and procedures. It would be of considerable benefit to Belize to collectivize this purchasing power and to develop a medical care market within Belize where it could be spent.

o A considerable part of private expenditure is paid to specialist doctors by private patients admitted to public hospitals; this practice squeezes public patients out of public facilities and allows MDs to use public facilities for private purposes without paying for the cost. Moreover, the fees generated from patient payments are shared neither with the hospital, the government, nor the nurses. On November 18, 4 nurses refused to assist at surgery in BCH because virtually all of the patients scheduled to use the BCH operating theatre that day were private paying patients.

o The MOH has a schedule of tariffs for inpatient care, which is on a sliding scale according to ability to pay. Collections have been nominal and despite a large outstanding debt on unpaid bills, no case has ever been brought to prosecution by the government. At the BCH, many patients are released after 5 pm and on weekends, when the billing clerk is not on duty. Physicians routinely sign release forms for patients at these times.

o The private medical care sector in Belize is growing rapidly, with private expenditures on health estimated at 44% of total expenditures. It is growing both (a) by meeting needs previously met by people leaving the country for medical care, and (2) by supplanting services previously provided in government health facilities.

o Within the past year, three private inpatient clinics have opened in Belize City, and the Banana Control Board has opened a fee-for-service private clinic in Big Creek. Physicians operating these services believe patient volume has been sufficient to sustain their investments, and they see high potential for an increased demand for private, personal health services in the future.

o Private facilities represent a significant shift of health services financing from the public sector. For instance, prior to the establishment of the private clinic in Big Creek, the MOH had responsibility for providing outpatient services to 6,000 residents. However, since the MOH hospital in Dangriga was 60 miles away, and the clinic in Independence was essentially uncovered, this population group had no access to care. Now, patients pay B\$10 for each consultation, and B\$30 for minor surgical procedures. Drugs are provided at cost to patients, as are family planning

supplies. Outpatient services have averaged 250 per month since the clinic opened in November 1987. Although the clinic was originally set up for workers and their families from the banana plantations, they are now used by the shrimp farmers, citrus growers, and Mayan Indians. The shrimp farmers pay fees on behalf of their employees as a fringe benefit; banana growers deduct from employees' pay the fees they pay on account to the doctor.

o Government policies governing the role of the private health sector and its policies on cost recovery (setting and collection of fees) in public health facilities will have important impacts on the quality and quantity of health services that can be made available by the government through its MOH facilities, regardless of the government's rationale for and objectives in setting such policies. The government's desired goals of providing efficient and cost-effective health services through publicly owned and operated facilities can only be met if policies are developed and implemented to support parallel development of private health services in a way that complements the available public services. The various dimensions of the policy considerations and outline of the important issues which need to be addressed are as follows:

1. The Private Sector

Current patterns of private expenditures on health can be characterized as follows:

o a large but unknown sum is spent outside the country (in Guatemala, Mexico, and the U.S.) and constitutes a drain on Belize's foreign exchange reserves as well as a loss of resources to outside interests which could otherwise be harnessed to develop Belize's own resources and capabilities.

o those who are willing and able to pay the B\$10 consultation fee (medicines extra) for outpatient services available in the private health sector have better and more prompt access to medical care than those unable to pay; while private services predominate in the urban areas, it is evident that a significant willingness to pay can also be found in peripheral areas.

o although private medical care is relatively expensive, it is now more efficiently delivered than that in the public sector, where there are few incentives facing the providers to minimize the cost of resources used.

o most expenditures on private medical care are paid out-of-pocket, since health insurance is still relatively uncommon in Belize; the relative absence of a health insurance market deprives the public of the benefits of risk pooling that are obtainable through social financing schemes.

2. The Public Sector

Current patterns of expenditures on health through the public

sector can be characterized as follows:

o the availability and use of resources (fiscal/human) are characterized by chronic shortages and imbalances:

a. Shortages: in general

o the current delivery system is understaffed and underfunded in virtually all areas and all levels;

o personnel costs dominate and are relatively fixed; when the budget must be cut back, personnel costs are the last item to be reduced; instead, many "discretionary" accounts, like fuel, maintenance, travel allowances, drugs, and supplies, are the first to be cut;

o cutbacks in non-personnel costs severely reduce both the productivity and attractiveness of government health services; when drugs are unavailable in government facilities, utilization of outpatient facilities drops precipitously and the quality of inpatient care suffers.

b. Shortages, in particular;

o shortages of nursing staff exist at most levels, but particularly of rural health nurses in peripheral areas where only 24 of 46 positions are currently filled.

o recruiting of nurses by U.S. hospitals has depleted hospital nursing staff faster than the School of Nursing can replace them in recent years.

o drugs and supplies are frequently out of stock, particularly in rural facilities.

c. Imbalances:

o there are relatively more nurses and beds than are needed in district hospitals because they are underutilized/overstaffed/overbedded;

o because patients bypass district hospitals to come directly to BCH for the specialized care they think they need or for greater certainty that they will get needed drugs and supplies, BCH staff treat a disproportionately high number of uncomplicated, routine cases, which would be more efficiently treated in the district hospitals.

C. Dynamic Relationship Between the Private and Public Sectors

o Although the MOH has an established fee schedule of charges to inpatients at all public hospitals, the fees are very low relative to costs and are largely uncollected in any event. Thus, services are, for all practical purposes, free of charges. Availability of free medicines leads in some degree to unnecessary and wasteful consumption, which the GOB can little afford.

Moreover, rising incomes has increased demand (i.e., willingness to pay) for all types of health services, and hence have created an opportunity for the GOB to recover some of its costs of providing health services by charging fees; in the absence of cost recovery, resources are increasingly devoted to private sector sources of care, some of which are heavily subsidized by the government (i.e., private surgical patients at BCH).

Government also (besides subsidies) directly pays for some private sector services (pathology lab, blood screening).

As willingness to pay expands and private sector sources of care proliferate, likely developments will probably include the following:

a. Providers will seek and promote mechanisms to spread risk, offering health plans, group discounts, etc.

b. As the Social Security Board pursues arrangements that increase benefits or reduce costs for its members, it is likely to purchase care from private providers under special conditions and prices.

c. A variety of collectivized financing mechanisms will boost the expenditures in the private sector; to the extent that the quality of services is perceived to be distinctly superior to those provided in government facilities, pressure will build for the GOB to use tax revenues (besides SSB funds) to extend collective financing arrangements to more population groups, especially those less well off.

D. The Need for Social Financing Linked to Pricing Reform

The national delivery system can support two basic improvements in the financing of health care in Belize:

1. expansion of broadly based health insurance so as to pool the risk of getting sick among all the people; and

2. improvements in the pricing of government-operated health care facilities that would constitute more appropriate incentives to the use of services by patients and would provide more funds for enhancements in the quality and effectiveness of services.

Expansion of the use of the Social Security fund to cover hospitals services, both public and private, merits close investigation, along with examination of the levels of charges to be instituted at government hospitals. The team's analysis indicated that many Latin American countries, some of which are lower per capita incomes, have financed broadly based health insurance through social security at per capita expenditures considerably in excess of what Belize currently spends on its public system. in

all of these countries, public systems also operate alongside the social security system of health care with varying degrees of coordination.

The healthy status of the Social Security's employment injuries benefits fund is indicative of a level of financing already accomplished. The team believes that, with modest additional assessments of employers, a medical care insurance fund could be established for hospital care. Appropriate policies could establish access to private or public sectors for those insured by the fund with reimbursement and copayment policies designed to give preference to public facilities while helping to finance some minimum level of care. Benefits could be structured carefully so that long-term actuarial soundness of the fund could be ensured. Development of such a fund, if thoughtfully and carefully approached, could be used to implement a long-term strategy for health system development which ensured that goals of equity of access, quality and effectiveness of care, and efficiency of services all could be achieved--without an undue burden being placed on those least able to pay for services.

E. Donor Support in the Health Sector

1. PVOs:

o While the GOB is committed to the goals and PHC as articulated at Alma Ata and as supported by WHO's goal of Health for All by the Year 2000, the financing and execution of programs targetting PHC goals have been largely delegated by the GOB to PVOs, church groups, and foreign donor assistance. Staffing and logistics support to rural health centers, which are staffed by rural health nurses, is evidently spotty and irregular. Even the district hospitals and BCH suffer from periodic shortages of staff and supplies.

o The GOB/MOH has become dependent upon PVOs and church groups for the fiscal and human resources needed to implement many important public/preventive health activities. Malaria, Aedes egypti control, water and sanitation, MCH, child survival, and other PHC activities are all carried out for the most part by PVOs, church groups, and foreign donor agencies.

o A National PHC Committee meets periodically to review and approve all foreign donor/PVO assistance activities in PHC. Although this serves to reduce overlap and conflict among the PVOs/church groups and screens out those activities with short term time horizons, it has been circumvented on occasion and its functions do not extend to standardizing programmatic approaches and training curricula nor to exercising managerial oversight of PVO activities. Four different PVOs train community health workers each in its own way and each has different procedures and resources available to provide logistics support and supervision following deployment.

o PVO PHC activities, once approved, operate independently of one another and at varying degrees of coordination and integration with MOH activities and management.

o AID funded child survival programs cover an estimated population of 41,842 beneficiaries at an annual cost of B\$6.7 million. On a per capita basis, this amounts to B\$161 per beneficiary. Government expenditures on the health care of the whole population represent B\$65 per beneficiary. Taking into account that this amount is spent almost entirely on curative care (over 80% of the budget), the government's budgetary commitment to PHC is unlikely to be higher than B\$13 per capita. Thus, AID is financing child survival services for the population of children under five and women of reproductive age at a rate which conservatively is 12 times higher per capita than government funded PHC to the entire population.

2. AID's Role:

o To the extent that donors, such as AID, continue to fund PHC and child survival programs, the government retains more flexibility to invest its budgetary resources in personal, curative, acute care services--namely the new BCH. These services enjoy the active support of the professional medical community, whereas the PHC services have the active support of the donor community.

o AID is in a position to use its donor assistance as leverage to encourage the GOB to adjust its health financing policies so that there are greater and more effective incentives in operation that encourage the efficient and cost-effective provision of services and the elimination of wasteful and unnecessary consumption of services. These policies would be designed to encourage the development of alternative sources of medical care in the private sector, and the implementation of cost recovery initiatives in government hospitals.

* If the remaining 20% of the MOH budget was spent entirely on PHC, this figure would be B\$2.3 million.

V. RECOMMENDATIONS

Introduction

For the Government of Belize to meet its social objectives, while at the same time reducing the financial burden it shoulders for providing "unrestricted access" for services to all segments of the population, it needs to better comprehend the political and economic forces now at work in the sector as a whole. In addition to this sector assessment, other analytical work will be necessary to provide a basis for future public policy decisions. In the view of the team, this additional work can be divided into three parts:

1. Long Term. Development of a national strategy to restructure the sector based on detailed knowledge that goes beyond the present MOH focus on the public sector;
2. Medium Term. Creation of an institutional capacity to support innovative new approaches to financing and organizing health services in the sector; and
3. Short Term. Continuation of the dialogue initiated by USAID/Belize since 1986 between different health care providers and financing entities now operating in the sector.

The recommendations below are designed to provide an appropriate strategic and analytical framework to the work proposed above. There are three assumptions underlying the recommendations aimed at adjusting the role of the Belizean government (i.e., MOH and other ministries and agencies) relative to that of the private health sector:

Assumption 1: Past investments in the private and public health systems have created an impressive array of health care resources leading to dynamic changes in the health sector, some of which may not be in the public interest.

Assumption 2. There is now an opportunity for government leaders to take the initiative in defining, comprehensively, the kind of health system Belize should have, and in designing and implementing a long-term strategy for allocating public and private health resources to support it.

Assumption 3. A principal focus of any such initiative should be the development of the government's capacities to channel the resources currently available in the private sector to be more supportive of public sector objectives for the health system: broader and more equitable access to quality medical care at an affordable cost.

Given these assumptions, it would make sense for the GOB to

shift its attention away from expansion of MOH services and away from attempts to constrain the non-MOH systems, but toward ways to increase the utilization of these existing private health sector investments. To increase utilization, the GOB must find ways -- other than to increase the numbers of persons eligible to use these systems, without increasing its fiscal liability by subsidizing their demand.

Having thus addressed increases in utilization of the existing non-MOH systems, the GOB then should focus on how to shift parts of clientele onto these existing investments, rather than struggling with ways to increase the MOH's budgetary resources to meet demand for hospital services. In rank order, then, the team's recommendations are:

A. Health Financing

USAID should engage the GOB (Ministries of Finance and Economic Development) in a dialogue on appropriate policies regarding health care financing. The agenda for this dialogue should be based on USAID's recognition that it is not in the long-term interest of the government to become excessively dependent on foreign donor and PVO resources for implementing those important public and preventive health service programs that hold such significant promise to reduce the burden on the curative care delivery system--which is the primary consumer of the government budget allocation to health.

The agenda of such a dialogue should include the following issues:

1. Relating Policy/Program Priorities to Sources of Financing and Allocation of Resource Issues

USAID should support PHC efforts indirectly as well as directly by stimulating the GOB to find sources of funding of its own for PHC priorities. In pursuing this approach, USAID should have explicit expectations of, and commitments from, the GOB regarding the level of budgetary support which the GOB will provide for those PHC and child survival programs which are currently being funded almost exclusively by foreign donors.

GOB's commitment to such support could be demonstrated in a variety of ways, such as:

a. innovative methods of financing the operating costs of the new BCH, which is sure to be more costly per bed and per patient than the existing facility;

b. privatizing various functions/services at the BCH, such as laundry, food service, ancillary services (lab, x-ray, etc.);

c. Charging private patients (of specialist MDs) for the

use of hospital services;

d. Developing and implementing a new fee schedule for hospital services which a) distinguishes between private and public patients (two schedules), b) is based on the relative costs of various services being charged for, and c) maintains a sensitivity (perhaps through a sliding scale) to patients' ability to pay .

e. Encourage development of social financing schemes (third-party risk-pooling) which can serve as a source of financing for the fees charged in the hospitals. For example, GOB could make insurance premiums and medical care expenditures tax deductible;

f. Negotiate a revision of the current arrangement with the Social Security Board so that it reimburses the MOH on a case-by-case basis at a level of reimbursement closer to true cost of the services received by SSB members in MOH facilities;

g. Contract with private providers to provide specific or comprehensive services to particular beneficiary groups, i.e., the elderly, school children, etc.

h. Continue to upgrade the quality of services at district hospitals in order to encourage patients to seek care for uncomplicated conditions at those hospitals rather than bypassing them to go to the BCH (the new fee schedule should also be different for district hospitals (i.e., lower) to discourage unnecessary use of BCH, and preserve its resources for the tertiary care needs of the country.

i. Provide assistance to the MOH in pre-operational planning and training for the transition from the old to the new Belize City Hospital. Adequate planning and preparation for the numerous new technical and managerial demands which the new hospital will place on the MOH is an absolute prerequisite to minimizing the future operating costs of running the new hospital.

j. Assist the MOH in investigating the possibility of selling the land on which the old hospital stands and using the proceeds to finance Phase II of the new Belize City Hospital. If the MOH attempts to manage and operate the new BCH (as configured in Phase I--112 beds) as well as the old BCH (converted to geriatric and psychiatric wards--93 beds), the management and operating cost demands on the MOH would be considerable. MOH managers have had no experience to prepare them for the requirements of managing two physically and managerially separate staffs and facilities on such a scale. The demands of the task (as currently envisioned) might well

be overwhelming, might entail large inefficiencies and increase operating costs considerably, and might thus effectively preclude for many years, the possibility of completing Phase II of the new hospital.

k. Development of an actuarial data base for Belize. This is necessary to establish price of operation and investment requirements for the expansion of health insurance and refinement of pricing and planning the potential of SSB entering the health arena.

l. Sponsor 2 - 3 Belizeans to study health insurance and prepaid health delivery in the United States by private multi-institutional systems (Kaiser Health Systems, etc.).

2. Working within the donor community

a. Assist the EEC to determine recurrent costs for the new BCH.

b. Establish a tracking system to account for donor fiscal inputs from a cost-benefit perspective.

B. Epidemiology

1. Improvement of data quality: USAID should arrange a RASA to obtain the services of a CDC epidemiologist with strong computer/information system skills for a period of 6 to 12 months to provide short-term technical assistance to MOH Epidemiological Unit and Central Statistics Office. This would be a critical prerequisite for further more comprehensive efforts to identify populations at risk to compute incidence and prevalence rates, and hence, to plan and implement disease control activities. A short-term objective for the MOH statistical unit should be to establish an epidemiologic database for 1989 which can be updated periodically with CDC assistance.

2. A target population group in need of detail study is the immigrant/alien group, whose health status may significantly influence national morbidity and mortality trends. For public health reasons, the Government of Belize needs to know the health status of this group particularly because it moves so freely within Belizean society, i.e., low-cost labor, etc.

3. Continuation of MCH/Child Survival and Other Disease Control Activities -- The vital statistics compare favorable to those of some developed nations. The gains made in this area are now sustained by donor funding. MOH officials have stated that they expect donors to continue their primary roles in funding PHC. The importance of PHC to the overall health of Belize should dictate that it is a national priority rather than a donor priority.

4. Chronic, Non-communicable Diseases -- In the future,, the

greatest cost to the GOB will develop in the area of chronic illnesses in an older and sicker population with less money per capita. For example, Bicknell, et. al., note that the unit cost for hypertensive management with a generic drug would cost \$26.10/per patient/yr versus the WHO estimates of \$10/fully immunized child for a vaccination program. The MOH will need to develop case management techniques, which should include public health screening for early detection of hypertension, diabetes, cancer and coronary artery diseases.

5. Develop an epidemiological data base for the health sector as a means to forecast the consequences of changes in morbidity and mortality patterns as Belizean social and economic development continues. This will provide a basis for policy decisions on rational resource allocation for the national delivery system as the distribution of disease presented for treatment changes over time. This will also provide the basis for decisions on service delivery mechanisms for different population groups.

C. Chronic Diseases

In the future, the greatest cost to the GOB will develop in the area of chronic illnesses. The MOH needs to develop case management techniques, which should include public health screening tools for early detection of hypertension, diabetes, cancer, and coronary artery diseases. For example, in the chronic disease area 40% of the reported total deaths of women between the ages of 45 and 60 are due to cervical cancer. Efforts should be made to establish the prevalence of cervical cancer within that population and to strengthen screening programs such as yearly PAP smears in the MOH programs.

D. Private Health Sector

To the extent to which the GOB can encourage the growth of the private medical care market in a way that complements the public provision of medical care, it will help to shift some of the burden of financing away from the public purse, improve the quality and efficiency of service delivery in both sectors, and conserve foreign exchange reserves currently being spent on medical care outside the country.

USAID should provide technical assistance to selected efforts that promise to advance public health sector objectives by encouraging growth of private sector entities and initiatives. Possible activities suggested are:

1. Assess the feasibility of constructing a 12-bed hospital in Big Creek to service the population currently being served (in outpatient services) by Dr. Reddy. This population is expected to increase from the current 6,000 to 15,000 (at the least) within five years (Project HOPE might be interested). This would relieve the MOH of secondary care in Big Creek;

2. Survey the extent of travel outside the country for medical care services, and estimate the total expenditures on such medical care. An accurate estimate of this spending could inform the government of the monetary value of developing a more sophisticated private sector within the country;

3. Assist the Myo'on Clinic in risk assessment which is prerequisite to its offering prepaid services; current ideas include capitating maternity/prenatal/postnatal/well-baby care provided in his clinic;

4. Assist St. Francis Hospital in developing a prepaid program of health services for two groups: (1) outpatient services for elderly persons currently being cared for by the Sisters of Mercy, which is being overwhelmed by the caseload and demand for care; and (2) schoolchildren, whose curative and public health care needs could be covered for a prepaid fee;

5. Assist the Social Security Board to custom design payment arrangements with private providers who are able to offer some significant benefits to SSB members;

6. Assist and promote any private sector efforts to develop social financing schemes that pool risk for those willing and able to pay for medical care. Most ideal are managed care systems in which the payment mechanism establishes appropriate incentives to providers (for minimizing costs) and to patients (for avoiding unnecessary and wasteful use of services);

7. Assist the Minister of Health in quantifying the costs and benefits inherent in the various programs and approaches now used, or possibly proposed, in the costs and financing area. This assistance would include technical assistance in developing structures and processes within the GPO that would enable the Ministries involved to establish working linkages between the following functions:

- policy-related research and analysis;
- resource allocation decision-making;
- budgeting, programming, and planning for better health.