Ministry of Health
Belize

Health Agenda
2007-2011

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NATIONAL HEALTH PLAN

HEALTH AGENDA
2007 – 2011

November 2006

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The Ministry of Health gratefully acknowledges the contribution of all those persons who made the development and publication of this National Health Plan possible. This comprehensive plan truly represents the trust of the health sector reform and the renewal of the commitment to the primary health care strategy as the means to the attainment of equal health for all.

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A special thanks to all those who contributed in making this National Health Plan a reality.

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FOREWORD

Hon. Jose Coye
Minister of Health

The Ministry of Health is responsible for the stewardship of health services in Belize. As part of the Health Sector Reform, the Ministry has embarked on many initiatives to address existing health problems and to intervene in stemming contributing factors of diverse diseases and adverse health conditions.

The underlying objective of improving the quality of care has been supported by reorganization of the health sector structure and financing mechanisms which are all being addressed. This will facilitate the Ministry of Health in coping with the demands of services and allow the public health structure to be more cost efficient.

Leading causes of hospitalization countrywide are chronic diseases and these in turn contribute significantly to incapacity of persons. Being aware that cardiovascular diseases, some sexually transmitted infections and certain types of cancers are directly linked to lifestyles, this plan focuses on a preventive approach to address these health problems, both at individual and collective level. Health education and health promotion is an integrated strategy of all health services, especially at the primary level. Other community outreach services complement the primary care through clinical service mobiles and field operations.

I take this opportunity to congratulate the entire staff of the Ministry of Health for the job being done on a daily basis which has contributed to the overall reduction of communicable diseases in Belize. Immunopreventable diseases are being prevented and controlled through an excellent vaccination coverage. The challenge now is to focus on adult chronic diseases, including road traffic accidents that represent the economic burden for the health sector.

The expectation is that this Five Year Strategic Health Plan will be the instrument to guide all health care personnel and stakeholders in attaining national targets in health care services. A comprehensive health care system with emphasis on Primary Care Services is fundamental in maintaining the health status of Belize, and truly enable us to attain “Equal Health For All”.

Honorable Jose Coye
Minister of Health

INTRODUCTION

"Health is the first and most important form of wealth. Health, the physical, mental and social health of the entire population is a nation's fundamental natural resource… If it is ignored or wasted, we will be guilty of developing our underdevelopment and history will not absolve us… The challenge that faces us is to forge a consensus of a well structured and integrated approach based on the principle of complementarity. In doing so we must take into account all the information and knowledge that the world has afforded us, not only in the biomedical sciences of curative interventions but also in the technology of preventative strategy, focusing on behavioral change – a people-intensive approach."[1]

The enormous technological advances in the field of medicine in recent years have enabled our professions to make huge strides in the battle to cure individuals of their ailments. Yet the "science and art of preventing disease, prolonging life and promoting health through organized efforts of society" – to use a working definition of public health – has not received the same level of attention or resources.

Most of the things that people get sick and die from every day are preventable and the people who most frequently suffer from these preventable ailments are the poor and the vulnerable. Poverty and health are so inextricably linked that three out of the eight Millennium Development Goals are aimed directly at improving the health of populations as a way of combating poverty within those same populations.

The Ministry of Health envisions a national health care system which is based upon equity, affordability, accessibility, quality and sustainability in effective partnership with all levels of government and the rest of society in order to develop and maintain an environment conducive to good health.[2]

While retaining our focus on the delivery of quality health care services to the individual, we must not neglect the health of the general public. There is a difference between caring for sick individuals and caring for sick populations.

Most Ministries of Health do not truly preside over health systems in the true sense of the word – they preside over systems that provide treatment for the illnesses that they have been unable to prevent.

A consideration of resource allocation easily demonstrates our preoccupation not with preventing disease, but with curing it once it occurs.

Yet the costs of such a 'fixing the symptoms not the cause' approach are simply astronomic – not just in fiscal terms, but even more importantly in terms of the unnecessary stress we place on our own bodies and lives.

The following National Health Plan, guided by the policies of the Government of Belize, outlines a strategy for the next five years which builds upon a solid foundation of primary care services and comprehensive, integrated, community services with the purpose of putting well proven preventive health measures into wider daily use.

[1] Minister of Health, Hon. Jose Coye – Keynote address Belize Medical and Dental XXIV Annual Congress, Oct. 2006
[2] Ministry of Health Vision Statement - Santa Cruz Declaration, May 1995

It provides a thorough analysis of our current situation and a discussion of significant challenges affecting our health system. It outlines our current national priorities and presents realistic targets by thematic area in accordance with those priorities and our national and international commitments. It provides clearly defined and measurable indicators to chart our progress towards those targets.

In short, the National Health Plan articulates the next phase in the “planned evolution” of health reform in Belize.

I. HEALTH SITUATION ANALYSIS

A. COUNTRY PROFILE

Belize is located in Central America lying in the outer tropics or subtropical geographic belt. It is bordered by Mexico to the north, Guatemala to the west and south and by the Caribbean Sea to the east. The geographic coordinates are 15.45 and 18.30 North Latitude and 87.30 and 89.15 West Longitude. Belize is 274 km (170 miles) long and is 109 km (68 miles) wide. The total land area is 22,700 km^2 (8,867 square miles). The climate is subtropical, very hot and humid, with a rainy season (middle of May to November) and a dry season (February to May) separated by a cool transitional period (November to February). The prevailing winds are easterly/north easterly trade winds generated by Bermuda subtropical high. The average temperature is a maximum of 85°F and a minimum of 70°F. The average rainfall is 60 inches (1,500mm). In relation to elevation extremes the lowest point is the Caribbean Sea (0m) and the highest point is the Victoria Peak (1,160m). The population density was approximately 33 inhabitants per square mile in the year 2005. A former British colony, Belize is the only English-speaking country in Central America. It is more similar to other English–speaking Caribbean countries in culture, politics, and economy; however, due to its location Spanish is widely spoken.

Belize obtained its independence from Britain in 1981. It is a sovereign state governed by the principles of parliamentary democracy based on the British Westminster system. The titular head of state is Queen Elizabeth II, represented by a Governor General. A Prime Minister and Cabinet constitute the executive branch of the government while a twenty-nine member elected House of Representatives and a nine-member appointed Senate form a bicameral legislature, the National Assembly.

In 1971 the capital was moved from Belize City to Belmopan because Belize City was destroyed twice by hurricanes. The country has six administrative districts: Corozal, Orange Walk, Belize, Cayo, Stann Creek and Toledo. Each urban area is administered by a locally elected town board, which is comprised of seven members. Unique to this system is Belize City, which has its own nine-member elected City Council. Village Councils assist in village level administration with the traditional "Alcaldes" or mayoral system of the south (Toledo District) incorporated into the structure. Districts are further subdivided into villages and government is presently in the process of defining boundaries for these subdivisions. These villages are governed by the Village Council Act.

B. DEMOGRAPHIC CHARACTERISTICS

i. Population Size, Growth and Composition

The 2000 census indicated that the total population was 249,800 and the mid year population estimates for 2005 was 291,800 (147,400 males and 144,400 females, for a sex ratio of 1.02:1.00).

The inter-censal growth rate for 1991-2000 was 2.7%. This intercensal growth rate was approximately one percentage point higher than the growth rate between 1980 and 1991. The demographic profile is of a young population: the population 1-4 in 1999 was 28,187 as compared to 32,666 in 2004. In 2004, 41.0% of the population were under 14 years of age and 52.0% was 19 years and under. The elderly (60 years and older) accounted for 5.9% of the total population. The dependency ratio was 46.8 in 2004. Women of childbearing age (15-49 years) accounted for 51.2% of the total female population.

In 2000, the urban and rural percentages were 48.6% and 51.4% respectively. In 2005, the mid year population estimate showed that this ratio remained the same indicating that 49.8% of our population lives in the rural areas and 50.2% live in the towns. The most populated village in the country is Ladyville in the Belize District with 3,472 persons, almost resembling the population of our country's smallest town, San Pedro, with 4,499 persons in 2000. The Belize District (29.7%), has always maintained the highest proportion of the population while Toledo District (9.5%) maintains the lowest proportion.

There has been a gradual decline in fertility rates over the past three decades. According to the 2000 population census, the total fertility rate (TFR) was estimated as 3.2 children per woman and reported the same in the year 2005. The corresponding rate from the Vital Registration System in 1999 was 3.3 children per woman, which corroborates closely with the figure from the census. Even though the TFR has decreased, differences in fertility by urban/rural residence, educational and socioeconomic levels, as well as ethnicity and religion estimated from the 1999 Family Health Survey (FHS) revealed several facts. Rural women have on average one child more than urban women. Non-working women have approximately 3 children more than working women, while women of low socioeconomic level have approximately 4 children more than those of high socioeconomic level.

The 1991 Census revealed (% immigrants/total pop) that almost 90% of the total foreign-born population came from Guatemala, El Salvador, Mexico, Honduras, and the United States, in descending order, however, this figure decrease to 86.3% as reported by the 2000 population census. Most immigrants from Guatemala, El Salvador and Mexico settled in the rural areas of the country, whereas most from the United States moved into urban areas. At that time, an almost equal number of Hondurans resided in urban and rural areas. Since the early 1990s, there has been significant immigration from Asia, primarily from mainland China and Taiwan. The 1991 Census revealed that over 70% of Belizean emigrants were from the urban areas as compared to 71.4% reported by the population census 2000. Most people who emigrated in 1999 (53.6%) were between the ages 15 and 24 as compared to 51.4% reported by the population census 2000.

The 2000 Population Census reported 0.87% of the population emigrated and of these 51.0% of all emigrants were in the age-group 15-24 years and 20.0% were in the age-group 25-34. The age groups were similar to the corresponding rates in 1991 and indicated that the trend of youth leaving Belize continues to increase. The majority of these emigrants are females (55.1%) and 62.9% of them were in the reproductive age-group, in the year 2000. It is important to note that of all emigrants 46.8% had obtained secondary education level or higher of which 19.2% of them were at the tertiary level.

The major ethnic groups, according to the 2000 population census, indicate that the Mestizos constitute 48.7% of the population and they live mostly in the West and North (Cayo, Orange Walk and Corozal). The Creole population was estimated to be 24.9%, and they live in the mid-eastern coast (Belize). Maya groups constitute about 10.6% of the population, and of these, three major groups, the Mopan, Yucatec and Ketchi, primarily live in the more remote Toledo and Corozal Districts. The Garifuna, who live mainly in the mid-to-south-eastern coast of Stann Creek District and along the Toledo coast, make up some 6.1% of the population. Other ethnic groups include East Indian (3.0%), Mennonites (3.6%) and other smaller groups representing 3.3% including Caucasian/White and Chinese.

C. ECONOMIC CHARACTERISTICS

Belize, like most countries exhibits "mixed economy" characteristics. The government has traditionally kept control of public services and some basic industries, so as to guarantee essential services to all citizens. The global trend however, has progressively gravitated towards privatisation of these services, and Belize has generally followed this trend in the privatization of electricity power, water, marine port and airport services. The government however, has maintained control over those industries that appear to lack the ability to raise sufficient capital investment from private sources.

Belize's exports have traditionally been agricultural in nature, with sugar, citrus, bananas and more recently marine products being its main exports as it transacts with its main trading partners, the United States of America, Mexico the United Kingdom and other EU countries.

In the year 2000, Belize had an unprecedented GDP real growth of 12.3%, but, following several natural disasters, a slowing world economy, higher fuel prices and even programmed reductions in the central government's expenditures, the years immediately following experienced reductions in the GDP expansion, as it fell to 3.5% in 2005. However, increases in banana and farmed shrimp production and exports, coupled with a surge in tourism activity, contributed to 2003's GDP growth of 9.3%. Notwithstanding this expansion, inflation rose by 2.6% during the same year despite lower import duties and decreases in the US export price index. This was largely due to a rise in world oil prices over the years, and the inability of the Belizean Economy to keep absorbing these external shocks. Naturally, the price of services directly dependent on fuel inputs increased, in addition to others indirectly dependent such as medical care.

During the same period, the Ministry of Health's portion of the GOB's budget as a portion of the GDP, has increased from approximately 2.4% in 2001 to 3.0% in 2005 as a part of an increase in GOB's social investments.

Table No. 1 Per Capita Income, GDP Growth and Inflation, Belize 2001-2005

Year	Per Capita Income (Constant Prices)	GDP Real Growth	Inflation
2001	BZ$6,834.70	4.9%	1.1%
2002	BZ$6,926.90	4.3%	2.3%
2003	BZ$7,339.70	9.2%	2.6%
2004	BZ$7,505.31	4.6%	3.1%
2005	BZ$7,347.50	3.5%	3.7%

Source: Central Bank of Belize

Table No. 2 Ministry of Health Budget, Belize 2001-2005

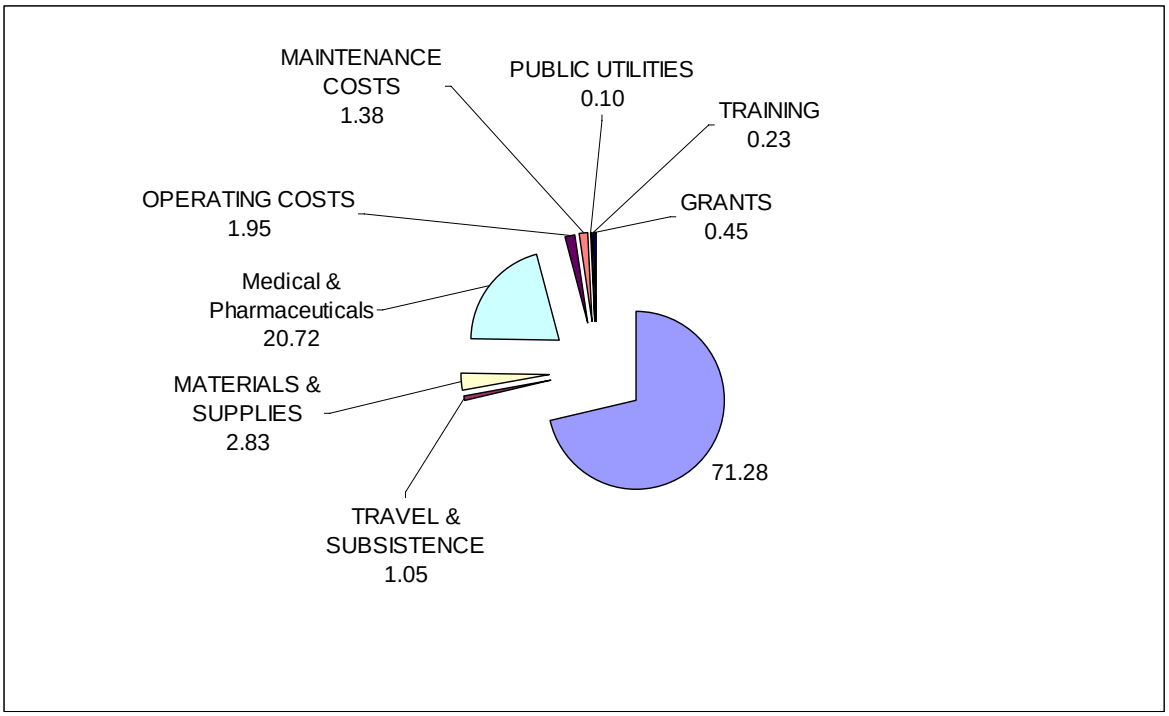
Ministry of Health					
Year	**MOH Budget**	**Recurrent Budget**	**% of GOB Budget**	**% of GDP**	**Social Investment**
2001	BZ$34,833,911.00	BZ$30,284,874.00	6.50%	2%	25%
2002	BZ$36,799,698.00	BZ$31,227,276.00	6.70%	2%	27%
2003	BZ$45,568,066.00	BZ$38,781,095.00	7.90%	2.30%	-
2004	BZ$52,332,826.00	BZ$44,287,326.00	9.57%	2.5%	-
2005	BZ$64,560,620.00	BZ$54,279,465.00	9.12%	3.0%	-

Source: Estimates of Revenue and Expenditure for Fiscal years 2001-2005

To place these figures in context, worldwide statistics indicate a global average of 5.5% of GDP is spent on health, with 3.2% being the norm for Latin America and 5.8% for the United States. The highest published figures emanate from the wealthiest European nations at 6.6%.[3]

The principal source of the budget continues to reflect an excessive reliance on general tax funding with minimal alternative sources optimized, while the allocation of the budget within the Ministry continues to reflect an overwhelming emphasis on personal emoluments and medical supplies with consequently inadequate allocations to general costs for operating programmes, human resource development, primary health care, rural health and the essential public health functions:

Graph No. 1 Proportion of Expenditure, Ministry of Health, Belize



[3] America Latina unade las prioridas de la inversion publica en salud mas bajas del mundo, Jorge Hintze 2003

D. SOCIAL CHARACTERISTICS

i. Poverty

The Poverty Assessment Report for 2002 showed that the percentage of the population living below the poverty line in Belize was 33.5%. This study further showed that poverty in the rural areas (44.2%) was much higher than that of the urban areas (23.7%). The Toledo District had the highest level of poverty in Belize (79.0%), and the Belize District had the lowest (24.8%). The corresponding rates in the other districts were higher in Orange Walk (34.9%) and Stann Creek (34.8%) as compared to Corozal (26.1%) and Cayo (27.4%). The proportion of the indigent population was 7.1% countrywide.

ii. Unemployed Labour Force

In Belize the unemployed labour force is defined as the population that is available, wanting and seeking work. The unemployment rate in Belize has increased steadily from 2001 (9.1%) and 2003 (12.9%), but showed a decline in 2004 and 2005 (11.6 and 11.0 respectively). The female unemployment rate over the past four years is much higher than that of the males, but has shown a relative decrease of 1.4% for the period 1999-2003.

Table No. 3 Main Labor Force Indicators
Belize 1999-2005

Indicators	1999	2001	2002	2003	2004	2005
Labor Force	150,355	159,248	164,352	170,752	180,030	110,786
Employed	89,210	94,430	84,720	89,222	95,911	98,589
Unemployed	11,455	8,561	9,453	13,215	12,580	12,197
Employment Rate	87.2	90.9	90.0	87.1	88.4	89.0
Unemployment Rate	12.8	9.1	10.0	12.9	11.6	11.0

*** In 2000, the Labor Force Survey was not conducted**

Source: Central Statistical Office

iii. Crime

The crime rate in Belize had decreased by 13.6% between the years 1999-2003. Of this, major crime, one of the country's major concerns, had shown a relative decrease of 5.6% between the years 2000-2003. Although crime rates have declined, it is still considered a major problem in Belize. Of all crimes committed in Belize in 1999, 23.1% of them were committed by the age-group 21-25 as compared to 21.0% in 2003. The male population had contributed to over 90.0% of the crimes committed annually and this rate has remained constant over the last five years.

iv. Education

The Government of Belize, through the Ministry of Education, developed policies to enhance the potential of all Belizeans, so that they are able to contribute freely to the Belizean Society and the advancement of common values. Such policies are: ensuring that all children are given the opportunity to acquire the knowledge, skills and attitude required for their full and active participation in national and self-development; providing financial assistance to primary, secondary schools and selected NGO's; and developing and administering vocational and literacy programs.

Primary school education is mandatory in Belize. The school enrolment at all levels, for the period 1999-2003, has shown an increase. The enrolment rate in vocational programs in 1999 was 2.9% and has increased to 3.5% in 2003, with the male population reporting a higher rate that accounted for just above 60.0% annually. The literacy rate in 1996 was 75.1% and had increased to 76.5% in 2000 with the female population reporting a higher rate than the males for both years.

Table No. 4 Literacy Rate by Sex
Belize 1996 and 2000

Sex	1996	2000
Male	74.9	76.1
Female	75.3	76.9
Total	75.1	76.5

Source: Abstract of Statistics 2004

E. SOCIAL INDICATORS

Infant Mortality Rate The Infant Mortality Rate has fluctuated over the last five years; however, the trend indicates an overall decrease. In 2000 the IMR was 21.2 for 1,000 live births and in 2005 was decreased to 18.4.

Maternal Mortality Rate The Maternal Mortality Rate for 2005 was 134.0 (10 maternal deaths) per 1,000 live births as compared to 68.4 (5 maternal deaths) per 1,000 live births in 2003. It must be noted that the yearly MMR has fluctuated within this time period; however, the highest recorded number of maternal deaths was 7 in 2002. The greater number of deaths occurred during the perinatal period.

Life Expectancy at Birth Life expectancy at birth was reported as 72.2 years in 2005. This represents a decrease of 2.8% as compared to the 1991 estimated life expectancy (71.8 years). It is presumed that this decrease can be associated with premature deaths related to AIDS and road traffic accidents. Females had a greater life expectancy of 5.9 years as compared to males in 2005.

Crude Birth Rate The Crude Birth Rate (CBR) in the year 2005 was 25.6 births per thousand. This rate is lower than the 2000 rate of 29.3. Teenage pregnancy, as reflected by births to the under-twenty population, has increased from 17.1% in 2002 to 20.3% in 2005.

Crude Mortality Rate The Crude Mortality Rate was reduced from 6.1 deaths per 1,000 population in 2000 to 4.7 deaths per 1,000 population in 2005. There were 6,489 deaths reported during 2001-2005. The number of deaths among males (3,846) has remained higher than female (2,643) for the 2001 to 2005 period**,** with a male female ratio of 1.46:1.

F. LEADING HEALTH DETERMINANTS

The total adult literacy rate in 2005 was 94.7% (94.8% for females and 94.6% for males). The level of participation in the education system is expressed in terms of gross and net enrolment rates. UNICEF estimated that the net enrolment rate (number of children 5-12 years enrolled in primary schools expressed as a percentage of all children 5-12 years) for primary school aged students showed that 89.9% of that population was enrolled in primary school during 2002 school year (91.7% females and 88.2% of males). The primary school gross enrolment rate (number of children enrolled in primary or secondary school expressed as a percentage of all children 5-12 years) was 104.5% in 2002. There was no difference in primary net enrolment by consumption quintile. Between 2000 and 2001, overall enrolment in secondary schools increased by 5% with a further increase to 6% between 2001 and 2002. Males comprised 49% of overall enrolment and females 51%. Secondary school net enrolment increased as the consumption status improved. These figures imply that education for all at the primary level is universal despite economic status. However, this was not the case at the secondary level where the access to education is influenced by economic status. At the primary level, Belize District had the highest net (100%) and gross enrolment (112.7%) rates and it also had the highest net enrolment rate at the secondary level.

According to the 2005 Labor Force Survey women in Belize have just above half the male rate of labor force participation (39.2% female, 76.4% male), just above half the male level of employment (men have 65.8% percent of available jobs), double the male rate of unemployment (7.2% male, 17.4% female), but more than double the male rate of long-term employment (greater than 12 months) (8.7% female, 3.3% male).

Analysis of health data in 2001-2005 indicates that non-communicable diseases were among the leading causes of morbidity and mortality in Belize. Diseases such as diabetes mellitus and hypertension continued to be the major contributors to mortality and morbidity. During the period 2001-2004, the incidence of reported HIV infections was on an increasing trend (15.6%), but the period 2004-2005 has shown a relative decrease of 5.0%. The rate of increase (relative rate of increase during the four year period is 38.5%) had decreased substantially during the period 2001-2004, which is evident in the time 2003-2004 (2.2%) as compared to 30.2% in 2001-2002. The Ministry of Health, reported that the average HIV adult prevalence for the period 2001-2005 was 216 per 100,000 population.

Access to safe drinking water continued to improve. In urban areas, the coverage increased from 95% in 1990 to 98.8% in 2004 and has remained steady since. In rural areas, the coverage increased from 51% in 1990 to 95.4% in 2004. In reference to sanitation, limited progress has been made, especially in the rural areas. According to 2002 data (Poverty Assessment Report, CSO) 54.8 % of the households had access to improved sanitation (sewer or septic tanks) while 39.7% used pit latrines, 10% of households shared toilet facilities and 3.5 did not have any toilet facility. Also 65.2% of rural households used pit latrines, compared to approximately 35% of the urban households, (except for Belize City). Increased waste generation and inadequate waste management represent a major national problem. It is estimated that Belize produces approximately 112,000 tons of municipal solid

waste annually with a per capita generation of approximately 1.32 kg/day. While a national solid waste management plan was developed in 1999, very little progress has been made in implementing it. Collection services in urban centers has improved, however proper disposal is a major challenge since there were are no proper facilities for the disposal of solid waste countrywide. The situation in rural areas is even worse, as there are no collection or disposal services.

In the past few years, Belize has been directly and indirectly affected by natural events, mainly hurricane and floods. The last hurricane to hit Belize was Iris, in October 2001. The country, especially the health sector, showed a high level of preparedness and response to these events. However with the increased frequency and intensity of these hydro meteorological hazards**,** the country remained on high alert and constantly updated its disaster management plans and programs to reduce vulnerability and minimize any catastrophic impact on public health.

In 2003, there were 1,240 cases of domestic violence. The age group 25-29 years accounted for the highest number of cases (269), followed by the 20-24 years (243), the 30-34 years (237) cases, 15-19 years (100) and 40-44 years (81). The total number of cases decreased to 969 cases in 2005. Eighty-nine percent and 87% of the cases occurred in the age group 15-44 in 2003 and 2005, respectively.

The 2000 census revealed that the majority of the foreign-born come from Central America countries. Guatemalans have remained the single largest group accounting for 42.5% of the foreign-born population. Approximately 15% of immigrants were under 14 years of age~~,~~ the majority being in the productive age group.

G. MORTALITY TRENDS AND OTHER DEMOGRAPHIC VARIABLES

There was an increase in the overall fertility rates from 3.4 children per woman (2003) to 3.6 (2004), it declined to 3.0 in 2005. The infant mortality rate (IMR) was reduced from 21.2 per 1,000 live births in 2000 to 14.8 in 2003; it was 14.3 in 2004 and 18.4 in 2005. In the period 2001-2005, the mortality rate in children under five as a result of diarrhea was reduced from 1.64 to 0.23 (per 1,000 children). The average life expectancy at birth in 2005 was 71.8 (69.5 for males and 74.2 for females). The average crude birth rate in 2005 was 25.7 births per 1,000 population. Teenage pregnancy, as reflected by births to the under-twenty population, decreased from 18.5% in 1998 to 17.1% in 2002. The crude mortality rate from 2001-2005 was 4.9, 4.8, 4.7, 4.6 and 5.2 deaths per 1,000 population per year, respectively**.** There were 5 maternal deaths in 2000, 7 in 2002, 3 in 2003, 5 in 2004, and 10 in 2005. There were 10 and 11 still births per 1,000 live births for 2004 and 2005, respectively.
There were 6,489 deaths in the period 2001- 2005. In the period 2001-2005 there were 7.8% (504) deaths from hypertension and 50.2% (253) occurred among the females. Diabetes mellitus ranked among the first ten leading causes of mortality in the period 2001-2005, accounting for 6.1% (398) and of these 57.3% (228) occurred among females. In 2005, it accounted for 6.9% (94 deaths). There were 5.9% (386) deaths from land transport accidents in the period 2001-2005 and ranked 4th in the year 2005 and males accounted for 78.5% (303). There were 5.7 (372) deaths related to Acute Respiratory Infection in the period 2001-2005 and 53.5% (199) occurred among the males. Acute respiratory infections ranked 6th in 2005. The five leading causes of death from defined causes for all ages in Belize in 2005 were heart diseases, diabetes mellitus, ischemic heart disease, land transport accidents and HIV/AIDS. For males, the five leading causes of deaths in 2005 were land transport accidents HIV/AIDS, injuries, ischemic heart disease, and diabetes mellitus. In 2005, for females, the five leading causes were hypertensive disease, diabetes mellitus, ischemic heart disease, cerebrovascular disease, and acute respiratory infections.

H. HEALTH PROBLEMS

i. Children 0-4 years

In 2001-2005, the leading cause of infant mortality was conditions originating in the perinatal period (62.0%). Of all deaths among neonates due to this disease group, slow fetal growth, fetal malnutrition and immaturity accounted for 19.0% (149 deaths), hypoxia, birth asphyxia, and other respiratory conditions for 11.1% (87 deaths), other conditions originating in the perinatal period for 4.5% (35 deaths), congenital anomalies for 11.4% (89 deaths), acute respiratory infections 8.3% (65 deaths), nutritional deficiencies and anemias 3.6% (28 deaths), and septicemia 3.7% (29 deaths). Diarrhoeal diseases and acute respiratory infections were amongst the leading causes of death in the under five population. From 1998 to 2003, cases of diarrhea in children under five were reduced from 1,645 to 227. In 2005, the five leading causes of death were slow fetal growth, fetal malnutrition and immaturity; hypoxia, birth asphyxia and other respiratory conditions, congenital anomalies; intestinal infectious diseases, and acute respiratory infections.

Health Statistics of Belize 2001-2005 showed that the prevalence of low birth weight (less than 2,500 grams) fluctuated from 3.6 to 4.4 in the period 2001-2004, it peaked at 6.9% in 2005.

The highest proportion of deaths in the age group1-4 was due to external causes of injury for the period 2001-2005. Land transport accidents accounted for 11.5% (18) and accidental drowning accounted for 8.3% (13) of these deaths. The second leading cause of death for this age group was communicable diseases accounting for 43.6% (44) of deaths. Of these, acute respiratory infections accounted for 12.9% (13) of total deaths and septicemia accounted for 10.9% (11) of total deaths. In 2005, the five leading causes of death were transport accidents, accidental drowning, acute respiratory infections, septicemia, and intestinal infectious diseases.

In 2005 the main causes for hospitalization among this age group were due to acute respiratory infections, non-infectious lower respiratory diseases, intestinal infectious diseases, injury, poisoning and certain other consequences of external causes and appendicitis, hernia of abdominal cavity; and intestinal obstruction. In 2005, 76.8% of births occurred in public hospitals. In 2001, ninety percent of mothers breastfed their babies, 24% breastfed exclusively for the first three months. Those most likely to have breastfed were Kekchi Maya women and women who gave birth at home. In relation to hose who did not practice exclusive breastfeeding, most were from urban areas and were younger and more educated. Creole women were the least likely to have practiced exclusive breastfeeding.

ii. Children 5-9 years old

This age group had mortality rates of 32 per 100,000 in 2003 and increased to 50 in 2005 with 79 deaths between 2001 and 2005. External causes accounted for 40.5% of all deaths, transport accidents accounted for 24.1% and accidental drowning and submersion 13.9%. Communicable diseases, including acute respiratory infections (12.7%), septicemia (3.8%), and HIV/AIDS (2.5%) all accounted for 19.0% of deaths in this age group. In 2005, the five leading cause of death were accidental drowning and submersion, acute respiratory infection, transport accidents, nutritional deficiency and anemia and diseases of pulmonary circulation and other forms of heart diseases.

During the period 2001-2005, there were 3,151 hospitalizations among this age group and 23.9 % (574) were due to injury, poisoning and certain other consequences of external causes, 12.3% (297)

appendicitis, hernia of abdominal cavity and intestinal obstruction, 11.0% (264) non-infectious lower respiratory diseases and 10.6% (254) to acute respiratory infections.

iii. Adolescent (10-14 and 15-19 years)

Sixty-four deaths occurred in this age group during the period 2001-2005**.** The mortality rate for adolescents 10-14 years old varied from 36 per 100,000 population in 2001 to 40 in 2005. External causes of injury were the leading cause of death (40.6%). Most notable was transport accidents, which accounted for 14.1% of total deaths. Communicable diseases accounted for 12.5% of all deaths and this was mostly due to respiratory infections. In 2005, the five leading causes of death were acute respiratory infections, (ranked 4th in 2005), accidental drowning and submersion (ranked 1st in 2005), transport accident (ranked 3rd in 2005), malignant neoplasm of lymphatic and haemopoietic tissue (ranked 2nd in 2005), diseases of the nervous system other than meningitis (ranked 5th in 2005), septicemia and injury and poisoning and certain other consequences of external causes (not ranked in the leading 5 causes in 2005).

For the five-year period, adolescents in the 10-14 age group accounted for 2.8% of all hospital discharges (2,643 of 92,813). The leading causes of hospitalization included injury, poisoning and certain other consequences of external cause (19.6%), complications due to pregnancy accounted for 11.8% and appendicitis, hernia, and intestinal obstruction (11.2%).

There were 1,356 live births to mothers in the 15-19 year age group, this representing 18.1% of the total live births. There was an average of 24 live births to mothers under 15 years.

The mortality rate among adolescents 15-19 years old remained constant at 86 per 100,000 population in 2002 and 2003, respectively. There were 157 deaths in this age group over the five-year period. Of these, 63.1% were due to external causes, of which transport accidents comprised 21.0%. While males were disproportionately affected by transport accidents, complications of pregnancy (56.1%) were the leading cause of hospitalization among females. In 2004, the five leading causes of death were land transport accidents (also ranked first in 2005), homicide and injuries (ranked second in 2005), accidents caused by firearm missile (not among the five leading causes of death in 2005), accidental drowning and submersion (not among the five leading causes of death in 2005) and suicide and self-inflicted injury (ranked third in 2005). In 2005, injuries and disease of pulmonary circulation and other forms of heart diseases ranked 4th and 5th, respectively.

During the period 2001-2005, there were 145 (41 males and 104 females) new HIV Infections in the age group 10-19 years which comprised 6.9% of total new HIV Infections and 16 occurred in the 10-14 age-group. The early initiation of sexual activity and the prevalence of STIs are public health concerns in this age group. Fourteen suicides and self-inflicted injuries were reported in the 10-19 age group during 2001-2005.

Between 2001 and 2005, there were 95 reported domestic violence cases in the age group under 1 to 14 years old and of these acts of violence, 76.7% were committed against females.

In 2003, studies showed that the prevalence of smoking is very high among school-aged adolescents (13-15 years), substantially higher in males than females.

iv. Adults (20-59 years)

Adults 20-59 years comprised approximately 42.2% of the total population in 2005 and accounted for 35.0% of deaths for that year. In the period 2001-2005, there were 2,147 deaths in this age group, which accounted for 33.1% of all deaths (6,489). The leading cause of death for adults was external causes, 35.5% (762) of all deaths in this age group, 252 of these deaths were due to transport accidents. In 2003 and 2004, the leading cause of death in the age group 20-29 was transport accidents and for 2005, it was injuries. In the age group, 30-39 years, the leading cause of death in 2004 was transport accident and in 2005, it was HIV/AIDS.

While maternal mortality deaths was reduced from 7 in 2002 to 3 in 2003, in 2004 and 2005 it increased to 5 and 10, respectively.

In the 40-49 years age group, HIV/AIDS was the leading cause of death in 2004 and 2005. In the age group 50-59, diabetes mellitus was the leading cause of death in 2004 and 2005.

The second leading cause of death was due to diseases of the circulatory system, accounting for 17.8% of all adult deaths, and of these, the majority was due to HIV/AIDS. Approximately 1 in 10 of all deaths in the period was due to HIV/AIDS. The fourth and fifth leading causes of death in this population were malignant neoplasms (9.4%) and diabetes mellitus (3.7 %).

In 2003, 14% of pregnant women accessed pre-natal care during their first trimester; 85% obtained prenatal care at some stage of the pregnancy; an estimated 20% of women, who tested their hemoglobin level during pregnancy, were anemic and only 62% took folic acid, iron and vitamin A supplements before or during pregnancy.

Statistics from the Belize Family Life Association shows that oral contraceptive remains the method of choice; however, there seem to be a shift to the one month injection, especially for younger women.

v. Elderly (60 years old and older)

Belize has a relatively low proportion of older persons. The absolute number of elderly persons is increasing and is projected to double by 2025. Income security in 2000 and 2001 was a key welfare issue as many older persons had very small or no income at all.

The mortality rate for this age group was 48.3 per 1,000 population for the period 2001-2005. During 2001-2005, there were 2,780 deaths in this age group (42.8% of total deaths). Males comprised 56.1% and females 43.9%. Forty-three percent (1,146) of all deaths for the age group were caused by diseases of the circulatory system (72.5% of total deaths in this disease group). In 2005, the five leading causes of death were hypertensive diseases, diabetes mellitus, ischemic heart diseases, cerebrovascular disease, and pulmonary heart disease and pulmonary circulation in that order of ranking.

I. FAMILY HEALTH

In the Population Census 2000, survey results showed that a higher proportion of persons in the rural areas (60%) was in union as compared to (52%) in the urban areas. Toledo District reported the highest proportion (62%) of its population in a union while Belize District reported the lowest (51%).

A study by UNICEF in 2004 indicated that approximately 2,000 children have lost one parent because of AIDS. The report estimated that the number of children affected in Belize is likely to increase to more than 7,000 children by 2010. In 2004, a Rapid Assessment of Orphans and Vulnerable Countries (OVC) was conducted by UNICEF to estimate numbers and analyze the situation of OVC in Belize. It concluded that some 14,000 children, or more than one in ten children in Belize, are already vulnerable and each adult death from AIDS results in approximately three orphans or children with one or no parent. The OVC assessment also concluded that for every Belizean who has already died, there are nearly three more that are already living with HIV.

The 2000 census showed that females headed 33% of households. The 2002 Poverty Assessment report noted that households headed by males are more likely to be poorer than households headed by females. Furthermore, the report indicated that households headed by females with a partner are more likely to be poorer than a household headed by a female without a partner. Married women comprised 65% of those in a domestic relationship with 35% in a common-law union. According to a UNICEF report for 2004, the Family Court reports that more than half of court orders are for child support and for support of children to unmarried women (paternity suits).

The 2000 Population census showed that the mean individual income is USD$ 413.88 per month. This represented an increase compared to 1991 when the mean income was USD$311.27. The mean income was higher for males than for females. In the urban areas 1% earned less than USD$713.75 compared to 6% in the rural areas. The highest quintile of income, those earning USD$17,130 and over per annum, was three times as high as the lowest quintile of population most of whom lived in rural areas. Toledo District reported the highest percentage (23%) that earned less than USD$693.93 per annum while Belize District reported the lowest, less than 1%. Belize District also reported the highest percentage that earned more than USD$17,130.

J. OCCUPATIONAL HEALTH

According to data from the Social Security Board, work related injuries have increased from 1,522 cases in 1995 to 2,580 in 2003. The increased loss of productivity from 35,430 days lost in 1995 to over 70,000 days in 2003 with the construction and agricultural sectors being the most affected. Assessments conducted in the agricultural sector indicate a high incidence of exposure to hazards and therefore the high incidence of injuries and or diseases being reported from this sector. The degree of underreporting of occupational injuries and diseases contributes to the limited information available and therefore makes it difficult to determine the real magnitude of the problem in the country

K. THE DISABLED

The 2000 census showed that 5.9% of the total population had a disability with significantly higher rates of disability in Toledo (8.4%) and Cayo (7.5%). The census found that the most prevalent disability was sight loss or impairment (3% of total population) followed by problems of mobility (1.8%), body movement (1.4%) and hearing (1.1%). The Cayo District reported the highest prevalence (3%) and Stann Creek District the lowest (0.9%). Another interesting finding was that cohort under five years represented 29% of the disabled population in Belize. Most of the disabled live in rural areas where services are not available**.**

L. ETHNIC GROUPS AND INDIGENOUS PEOPLE

The 2004 Labor Force Survey reported that Mestizos constitute 48.4%, Creole 27.0%, Maya Groups (the major two are Mopan and Kekchi) about 10%, Garifuna 5.7%, Mennonite 3.2% and East Indian 3.0% of the population in Belize. Other ethnic groups with less than 1% are Chinese (0.9%) and Caucasian (0.7%).

M. VECTOR-BORNE DISEASES

The two main vector borne diseases affecting the country are malaria and dengue. The principal specie causing malaria in Belize is the *Plasmodium vivax* parasite although *P. falciparum* remains an important and dangerous threat in parts of the country. Malaria cases fluctuated from 1,441 cases in 2000, 1,066 in 2004 and 1,549 in 2005, of which 653 cases (42%) were from the Stann Creek District. Malaria cases will continue to represent an important public health concern in Belize, especially in rural areas of the Southern Districts since there is an active migrant population that works in the citrus and banana industries and the constant population movement resulted in substandard housing, among other factors.

Dengue is also endemic in Belize. While the number of cases had been relatively low (under 5 cases), outbreaks were experienced in 2002 (42 cases) and 2005 (652 cases). Of the 652 cases reported in 2005, 614 cases (94%) were from the Cayo District. The first officially confirmed case of dengue hemorrhagic fever in Belize occurred in 2005. Belize has had serotypes 2, 3, and 4, and, as such, the population remains vulnerable to an outbreak of dengue hemorrhagic fever.

Recently a few chronic cases of Chagas disease have been reported, and recent studies reveal the presence of the vector in western and southern districts.

N. VACCINE PREVENTABLE DISEASES

There have been no reported cases of measles since 1991 or poliomyelitis since 1987. The last case of neonatal tetanus was reported from Stann Creek District in 1997 and the last case of non-neonatal tetanus was in a three-year old from Orange Walk District in 1998. The last case of Congenital Rubella Syndrome was reported in 1997. The Measles-Mumps-Rubella (MMR) vaccine was introduced in 1996 and the pentavalent formulation (DPT/Hep/Hib) in 2002. In 2005, MMR coverage was 95%; BCG, DPT, OPV-3 and Hepatitis B coverage were 96%.

O. INTESTINAL INFECTIOUS DISEASES

Access to safe drinking water (97.2% of the population) contributed significantly to the reduction of cases of gastroenteritis and the control of cholera. There have been no cases of cholera since 1999. On the other hand, gastroenteritis between the period 2001-2005 accounted for 703, 293, 371, 3,006, and 3,737, respectively. The number of cases of food-borne illnesses rose from 13 in 2001 to 76 in 2003 and dramatically increased to 224 cases in 2005, the latter increase can be partially attributed to improved surveillance.

P. ACUTE RESPIRATORY INFECTIONS

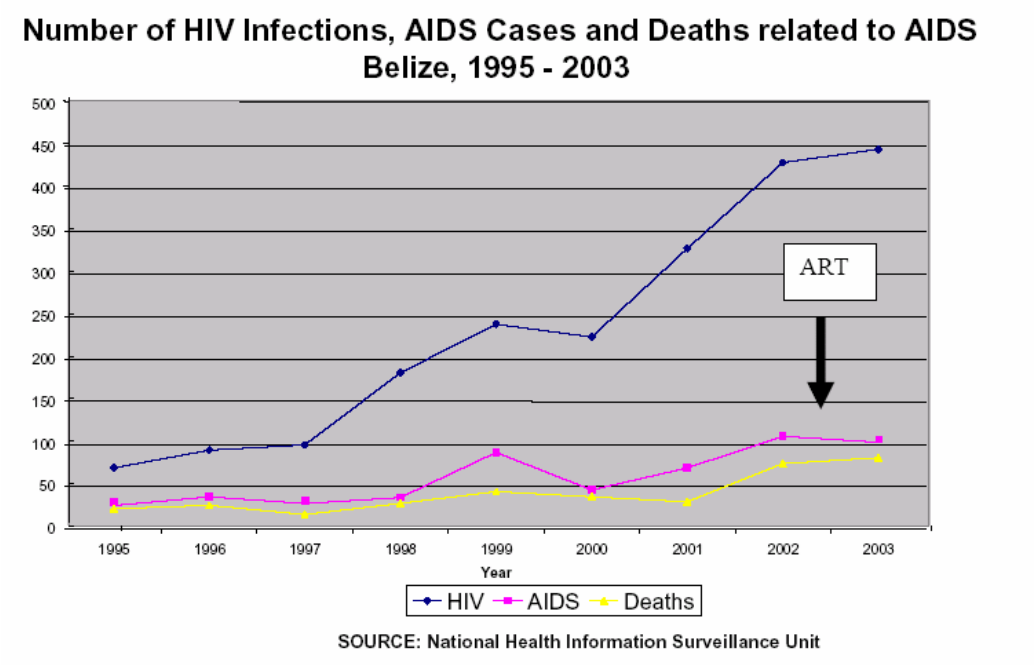
Acute Respiratory Infections (ARI) continues to be one of the leading causes of mortality and morbidity in the general population. Information from the Ministry of Health showed that deaths attributable to ARI in the 1-4 age group were 9.4% in 2001, 8.8% in 2004 and there was no reported death in this age group in 2005.

Q. HIV/AIDS

HIV and AIDS constitute a major public health problem, the main characteristics of which is the feminization of the disease, infected children and a growing number of AIDS related orphans. The highest concentration of infected persons can be found in Belize City (437 in 2002 and 396 in 2005) with Corozal and Toledo reporting the lowest number of cases (4 in 2002 and 3 in 2005) and (6 in 2002 and 2 in 2005) respectively. The Ministry of Health through its multi-sectoral response includes prevention, treatment and care and part of its strategy is access to anti-retroviral drugs to all those who satisfy criteria. However, issues of stigma and discrimination continue to militate against access to care and treatment.

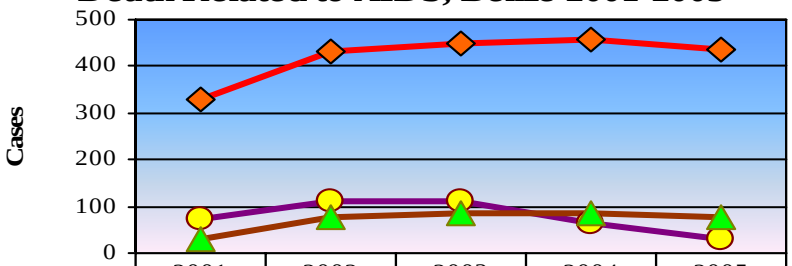
HIV/AIDS reported from 1986 through 2005 indicated that 3,360 individuals acquired HIV, 762 developed AIDS and there were 606 reported deaths related to AIDS. New HIV Infections reported for 2004-2005 were 457, and 432 respectively. Belize City accounted for the highest number of cases, and Corozal and Toledo reported the lowest number of cases. The sex ratio at the end of 2005 was 1.1:1. In 2003, there were a reported 10 children less than 1 year and 12 children between 1 and 4 years newly diagnosed as HIV-positive. Since September 2003 anti-retroviral treatment is provided to 398 patients 207 males, 153 females, and 38 children. In 2005, the mother to child transmission rate was 9.5. Under-reporting is very likely since clinicians may not indicate AIDS on the death certificate to protect individuals and family from stigma and discrimination. Since the year 2000 the Prevention of the Mother-to-Child Transmission (PMTCT) program was implemented within all public health facilities and four private health facilities. Between 2003-2005, approximately 185 women tested positive for HIV.

Figure No. 3



In the general population, new infections with HIV continue to show an upward trend as the population tested has also greatly increased. In the year 2005 the reported new HIV Infections was 434, AIDS cases 30, deaths related to AIDS was 76, children less than 1 year 53 and 43 children between 1 - 4 years newly diagnosed as HIV-positive. Belize City accounted for the highest number of HIV and AIDS Cases (437 in 2002 and 396 in 2005). Both Corozal (4 in 2002 and 3 in 2005) and Toledo (6 in 2002 and 2 in 2005) accounted for the lowest number of cases.

Figure No. 3 Total HIV Infections, AIDS Cases and Death Related to AIDS, Belize 2001-2005



	2001	2002	2003	2004	2005
HIV Infections	330	431	447	457	434
AIDS Cases	72	109	109	63	30
AIDS Deaths	32	77	84	85	76

R. ZOONOSES

There have been no rabies cases in humans since 1989 and the last case in canine was reported in 2000. However, the prevalence of rabies in bovine and wildlife animals, such as vampire bats and foxes, represent a constant public health threat.

S. NON-COMMUNICABLE DISEASES

Two point eight percent of children under 5 years seen in health clinics in 2005 were obese. Belize District had the highest percentage (36.4%) and Corozal District the lowest (4.4%). In the rural areas, the severity of malnutrition was higher for females than for males, while in the urban areas, it was about equal.

In 2001, heart diseases ranked 2nd (82 deaths), ischemic heart diseases ranked 6th (69 deaths), and cerebrovascular diseases ranked 7th (59 deaths). Cardiovascular diseases accounted for 22.4% of reported deaths in 2001 and accounted for 21.3% of reported deaths in 2005.

Hospital discharge data showed 366 and 391 hospitalizations for neoplasms in 2003 and 2005, respectively. In 2005, females accounted for the highest number of cases, of which 183 were benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature. Neoplasms of these same categories in males were 35. In females, there were 28 cases of malignant neoplasm of cervix uteri and uterus, body and unspecified. In males, there were 9 cases of malignant neoplasm of prostate.

In 2001, there were 18 deaths from cervical cancer, 6 in 2002, and 12 in 2003. Cervical cancer statistics from the Ministry of Health reveal 14 deaths in 2004 and 10 deaths in 2005. Cervical cancer morbidity data indicates 21 cases reported in 2004 and 23 cases in 2005. In 2001, there were 1 and 2 deaths in Stann Creek and Toledo, respectively; however, there were no cervical cancer deaths in the Toledo district during the period 2002-2004. In 2003, malignant neoplasms of cervix, uteri, and uterus body and unspecified, ranked 8th in the ten leading causes of death. In the year 2005, there were 10 deaths from cervical cancer. A needs-assessment report conducted in 2003 showed that the estimated coverage of cervical cancer screening was 62.7%, with the lowest coverage among illiterate women living in rural areas. Cervical cancer mortality rate in the year 2005 was 6.9 per 100,000 women.

T. MENTAL HEALTH, ALCOHOLISM, AND DRUG ADDICTION

The leading causes of mental health consultations are due to clinical depression, psychotic disorders, anxiety disorders, substance abuse and stress-related disorders. In 2005, 12,318 patients were seen at various Psychiatric Units throughout the country. Psychotic disorders accounted for highest cases seen, affecting 1, 904 men and 1,257 females. Child disorders and abuse were 303 and 141 respectively in 2005.

The Global Youth Survey in 2003 indicated that 20% of high school students used tobacco, cigarettes (16%) and other forms of tobacco (9%). 15.5% usually smoked at home and 23.5% bought cigarettes in the store.

U. EFFECTS OF PESTICIDES AND OTHER ENVIRONMENTAL CONTAMINANTS

The importation of pesticides in the country increased significantly from 1.7 million kilograms in 2001 to about 7 million in 2005. A study conducted in Belize in 2001 documented 59 severe acute pesticide intoxication cases, including 3 deaths. It was also estimated that about 4,000 acute pesticide intoxication cases occur annually in the country with the majority involving agricultural workers, pesticide handlers and/or applicators.
A study conducted by the Ministry of Health and PAHO in the Macal River (Cayo District) in 2005

revealed the presence of mercury in several fish species. The average concentrations found were 0.11 and 0.56 µgHg/g in non-predatory and predatory fish, respectively. While these levels are lower than the limits set by FAO/WHO, 0.5 µg Hg/g in non-predatory and 1.0 in predatory fish, there are concerns of exposure to mercury due to consumption of fish by residents in rural communities settled along the river.

V. ORAL HEALTH

Prevention strategies have included fluoride supplement programmes in pre-school children and fluoride prophylaxis applications. Clinics also offer fissure sealants for children, prophylaxis and check ups and some limited restorative dentistry.

The Dental Health Program is carried out in all six districts with 19 professionals, of which, nine are Dental Surgeons and ten are Dental Nurses or Dental Assistants. The services are all provided from the Government Health Facilities.

II. HEALTH SERVICES AND SYSTEMS DEVELOPMENT

A. HEALTH SERVICES

During the 1980s the policies of the Government of Belize reflected a growing emphasis on a primary health care strategy to promote a healthy Belizean population. However, the impact of various demographic, economic and social factors on Belizean society altered those determinants of health, including lifestyle practices that affected the Belizean health system.

Based on the changing epidemiological profile of the country and a corresponding increased in the numbers and complexities of the demands for services from the health system, the need was identified for an in depth assessment of the health sector. In 1994 a technical co-operation document was signed and approved between the IDB and the GOB, which financed a project to offer technical assistance in this assessment. The diagnostic phase, which was carried out from May ’96 to July ’98, identified four major policy areas: Allocation of health sector resources, Public and private sector roles, Improving quality and equity of services, Financing of the health sector.

Within the four policy areas, nine priorities were also identified to guide the diagnostic process. These are: efficiency in resource allocation, expansion and diversification of sources of financing, sector design and policies, development of the private sector, organization and delivery of health services, human resources policies and management information systems, access to health services, and management and functioning of support systems.

The problems identified were of several types, management and infrastructure, systems organization and regulation and financing. In terms of management, over-centralized command and control in the Ministry of Health, too many vertical programmes resulting in separation of managers and services, fragmentation of responsibility and authority for budgets and programmes management, weak planning/programming, health facilities and programmes often managed by medical doctors without management or financial management training, inadequate supply of well trained health professionals, especially medical specialists and managers. Others have out of date skills and minimal commitment to patient care, inadequate use of management systems in management and clinical activities, inadequate and poorly controlled information and medical record systems, there were poor accounting

skills and financial systems, poor accountability, discipline, attendance and "customer service" and few meaningful incentives for human resources within the public sector.

In terms of infrastructure it was noted that what existed was old, dilapidated, poorly equipped and poorly maintained.

The health sector suffered from severe resource imbalances: toward personnel and away from needed support costs (drugs, supplies, maintenance etc), towards curative care services and away from preventive / public health, towards Belize City and away from the other districts and towards cities and towns and away from rural areas.

The Organization and Regulation of the Private Sector was found to have developed in a haphazard fashion and with limited growth due to various factors: government regulation of private practice is inadequate and lacks monitoring capacity, there are no accreditation or other public safety programmes, public/private distinction is blurred with Government employees also pursuing private practice, quality is uneven and unmonitored by government, consumer protection and public safety programmes are deficient, registration/licensure of practitioners; laboratories; private facilities etc is inadequate, low coverage/high cost of private health insurance, no linkages between financiers of private care (insurance companies) and providers, high availability of low cost offshore sources for health care services.

The diagnostic phase also indicated that the health sector did not mobilize resources efficiently. There was excessive reliance on general tax funding, alternative sources of funding (to budget) are minimal, historic reliance on donors for funds and expertise, with poor central control of their programmes, inadequate funding of drugs, supplies, maintenance etc., inadequate allocations to primary health care, rural health and essential public health functions, inefficient deployment of personnel (not based on workloads of programmes) and opportunities for social security funding remain unexploited.

Following the diagnostic phases of the Health *Policy* Reform Project, the Government of Belize guided the process for the development of a Health *Sector* Reform Project. Health Sector Reform being defined for this purpose as "A process aimed at introducing substantive changes in the different structures and functions of the sector, with a view to increasing the equity of its benefits, the efficiency in its management, and the effectiveness of its actions; and through this to achieve the satisfaction of the health needs of the population. It is an intense phase of transformation of the health systems based on situations that justify and make it viable."

The Health Sector Reform Project addresses the challenges identified by setting several fundamental objectives that the reform project must adhere to, these being: Universal Access, Equity, Quality, Sustainability and Community Participation. The health system should principally promote good health using the WHO definition of July 1946 "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity", as well as providing excellent curative services to the entire population as needed.

Implementation of the project began in 2000. Much has already been accomplished. Notably, four health regions have been established, with increasing administrative autonomy through Regional Management Teams. Services have been significantly expanded in the regional hospitals while the three community hospitals continue to function.

The development of a regulatory framework for the delivery of health services in Belize is complete

and about to be implemented. A Licensing and Accreditation Unit has been established at the Ministry of Health Headquarters for this purpose. This unit will assist health care providers in meeting the minimum standards developed as part of the framework of regulations and will utilise consistent and objective measurement instruments and methodologies to determine the levels of compliance with those regulations. It is intended that the licensing requirements will become mandatory with the enactment of supporting legislation early in 2007.

An increased focus on the patient is reflected in the analysis of data from patient satisfaction surveys conducted by the Ministry. Resources have been re-allocated towards appropriate information systems and health promotion including risk behaviour interventions. The Health Education and Community Participation Bureau, HECOPAB, will be further strengthened and focused on the achievement of this important task.

The Ministry continues to move towards evidence based decision making and the collection and analysis of the data that make this possible while the headquarters is refocused towards setting policy and implementing its regulatory functions. An innovative and comprehensive new information system is under development and Service Level Agreements between the Ministry headquarters and service providers in the regions have been produced in draft form, for implementation in 2006 / ’07. The Service Level Agreements define the relationship between the provider function of the regional health services and the steward and regulator function of the Ministry of Health Headquarters in the reformed health system. These agreements rely on the evaluation of results as a means to measure institutional and management performance relative to the goals and targets defined within the agreements. They represent a mutually agreed, formal commitment between the parties to increase management capacity in order to optimise the provision of health care services for all Belizeans within a framework of access, equity, quality of care, efficiency and patient satisfaction.

The Ministry itself has been restructured and the offices of the Director of Health Services and the Policy Analysis and Planning Unit brought together with the office of the Chief Executive Officer in Belmopan. KHMH has been piloting the principles of autonomy and has been established as an authority under the KHMHA Act. Institutional strengthening measures have been taken here, particularly in the areas of financial and human resource management, information systems and clinical quality assurance with the intention of further implementation of these same measures in the rest of the country in the near future.

A National Health Insurance Agency has been established under the Social Security Board (through the SSB Amendment Act of 2001) as the purchaser of an expanded primary care package of health services from public and private providers. This purchasing function utilizes performance contracts and the principles of social insurance, risk pooling and the efficiency of a strong and informed purchasing body. The development of NHI is not primarily about ‘how to raise additional money’ for health care. The potential advantage of NHI is in ‘changing the way that health funding is spent through the principle of an ‘informed purchaser’ from a ‘choice of providers’ within the guidelines of performance contracts with specific targets and weighted bonuses to be used as incentives for excellence. Primary Care Provider clinics have been established in the south side of Belize City and in the southern region of Belize, with staffing ratios based on one General Practitioner led team per 4,000 population initially (the health care provider to population ratio will improve even further as the service evolves). The optimum size of each PCP has been determined at three GP led teams, with each PCP serving a population of approximately 12,000 Belizeans. The PCPs operate using an urban model in Belize City (where geographic access is relatively easy) and an extended rural model in southern

Belize where the challenges presented by extremely low density populations have required the addition of satellite clinics and mobile 'outreach' services to create an equitable environment for access to quality services. The PCPs are sited in geographic zones and are responsible for maintaining the epidemiological profile for the catchment population within that zone and for promoting the health of the community they serve and not limiting themselves to simply treating those who are unfortunate enough to become ill.

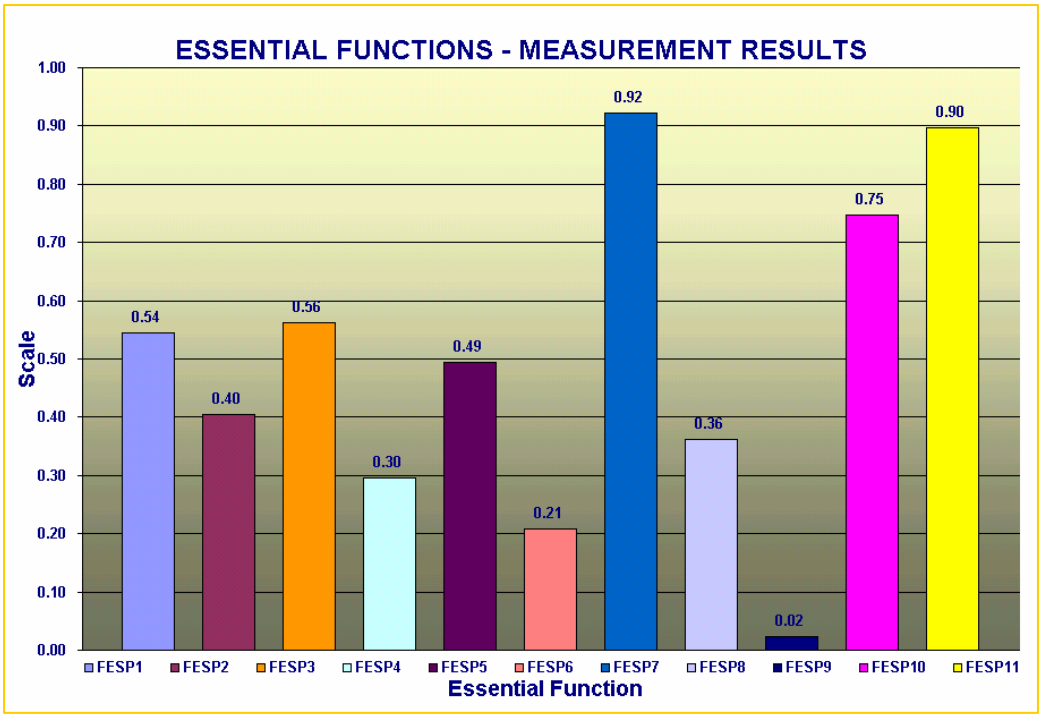
B. ESSENTIAL PUBLIC HEALTH FUNCTIONS

A wide range of evidence is available indicating that when certain critical functions are not performed adequately, this will result in increased morbidity and mortality and considerable human suffering. Furthermore, rapidly changing epidemiological, environmental, technical and organizational conditions, such as will be felt in Belize through implementation of health sector reform, make it necessary to define a set of functions that are so crucial for the overall performance of a health system that their performance needs to be ensured by the state.

"Essential" in this context, refers to the importance and cost-effectiveness of the functions in maintaining and improving the health of populations. Consequently, governments should focus on facilitating and ensuring that these functions are implemented at a minimum performance level. The actual implementation may take place by, or in cooperation with Regional Management Teams, NGO's, the private sector and the community.

EPHF No. 1 Monitoring, Evaluation and Analysis of the Health Situation of the Population
EPHF No. 2 Public Health Surveillance, Research, and Control of Risks and Harm to Public Health
EPHF No. 3 Health Promotion
EPHF No. 4 Citizen Participation in Health
EPHF No.5 Development of Policies and Institutional Capacity for Planning and Management
EPHF No. 6 Strengthening of Institutional Capacity for Regulation and Enforcement in Public Health
EPHF No. 7 Evaluation and Promotion of Equitable Access to Necessary Health Services
EPHF No. 8 Human Resources Development and Training in Public Health
EPHF No. 9 Quality Assurance in Personal and Population – based Health Services
EPHF No. 10 Public Health Research
EPHF No 11 Reducing the Impact of Emergencies and Disasters on Health

Figure No. 4 EPHF's Evaluation, Belize 2001



C. LEGISLATION

The National Health Authority presently works under the legal guidance of the following current legislations: Medical Services and Institutions Act, Public Health Act and legislations for the following professional practices: medical practitioners, opticians, dentists, chemists/druggists, and nurses and midwives. It became evident through a series of consultations working with the Health Sector Reform Project that there is an urgent need to review and develop new legislations that would facilitate the reorganization of health service and the delivery of efficient, equitable and quality health services.

In an effort to realize the objectives of the Ministry of Health the following legislations were developed and revised:

A General Health Act was developed to incorporate all existing health legislations as well as the general functions of the Minister of Health. The General Health Act has been proposed as the Parent legislation to which all other health legislations are subordinate and must be consistent with. It supersedes all other legislations that affect human life and human health (e.g., pesticides use, certain functions of agriculture and environment).

The General Health Act seeks to clarify and strengthen the stewardship role of the Minister of Health through:

1. defining the objectives of the National Health system
2. outlining "Rights" related to health
3. defining the duties of the Minister of Health
4. inclusion of health policies and general principles
5. establishment of national health systems

6. defining the functions and powers of the national health systems
7. regulation-making for the national health system
8. outlining preventative and safety measures related to health
9. identifying safety measures for immediate application
10. sanctions and their applications

With the signing of a Memorandum Of Understanding with relevant regulatory agencies defined roles, responsibilities and functions of each party will be clarified and streamlined in order to ensure the efficient and effective execution of the General Health Act. Because of the similarity in name of the existing Public Health Act it is recommended that it be renamed the Environmental Health Act. Revisions of this existing legislation have started.

The current Medical Services and Institutions, through an "Order" by the Director of Health Services, allowed for the amendment of the Act. It is proposed to include: licensing and accreditation of inpatient and outpatient health facilities, laboratories, pharmacies, diagnostic imaging services; rights and obligations of patients at medical institutions and; redefinition of health services institutions to include: hospitals, clinics/centers, primary health care facilities, pharmacies and dispensaries, medical laboratories, facilities which provide diagnostic and imaging services, any other facilities which provide health services to members of the public (birthing centers and long-term care facilities).

As it relates to professional practice, all current legislations were revised and updated and a newly developed legislation called Allied Health Professionals Bill to cover professionals in the following areas: technicians in laboratories, radiology department and physical therapy. Nurses in the expanded roles are still governed by the Nurses and Midwives Act but have been acknowledged in the Medical Practice and the new Pharmacy Bill. Some key areas of improvement with professional practice are strengthening of governing board/councils, re-licensure, continuing medical education, reviews of fees and schedules, and increased emphasis on sanctions.

D. HEALTH SYSTEM

The National Public Health System in Belize provides universal access to personal and population based services, essentially at no direct cost to the individual. This includes the provision of pharmaceuticals and other support services. The Government is the main provider of health services, though recently there has been an expansion of the private sector as it relates to personal care. The main financing source for the public sector is the consolidated fund of central government. A system of rural health centres with permanent staff is supplemented by mobile health services, community nursing aides, voluntary collaborators and traditional birth attendants working throughout the rural communities of the country.

Table No. 5 Health Facilities in the Public and Private Sector, Belize 2005

Regional Health Authorities	Mid-Year Population estimates-2005	Public Hospitals	Number of Private Clinics	Eye Clinics	Public Health Centres	Public Health Posts
Northern	80,400	2	12	3	12	14
Central	87,000	2	20	5	7	3
Western	66,800	2	15	3	4	7
Southern	57,600	2	8	3	14	19
Totals	291,800	8	55	14	37	43

E. ORGANIZATION AND ORGANOGRAM

The Government of Belize is in the process of decentralizing administrative authority for health services to bring decision making functions closer to the stakeholders. A comprehensive package of health services is now delivered through four administrative regions.

The provision of hospital based care in these four regions includes inpatient and outpatient care, including accident and emergency, paediatrics, obstetrics and gynaecology, internal medicine and surgical care. Clinical and non-clinical support services and some specialized tertiary services are also provided. A network of clinics, permanently staffed health centres and un- manned health posts is available to address the primary health care needs of the population.

N.B. One of the public hospitals in the Central Region is the current psychiatric hospital, Rockview, though a radically new approach to the issue of mental health is envisioned in the Health Sector Reform Project which includes the de-commissioning of this institution. There are also two small ***private*** hospitals in Belize City in the Central Region and one in Santa Elena in the Western Region.

The private sector has been expanding over the past few years, both in size and services provided. These provide the four basic specialties along with supporting services (pharmacy, laboratory and imaging) and tertiary care services including, neurosurgery, cardiology, urology, ENT, nephrology (renal dialysis) and intensive care.

Table No. 6 Organization of Public Hospital Capacity, Belize 2005

Health Districts	Orange Walk	Coro-zal	Stann Creek	Toledo	Belmopan	San Ignacio	KHMH	Belize	National
Mid-year Population estimates-2005	44,900	35,500	30,000	27,600	23,380 (estimate)	43,420 (estimate)	87,000		291,800
Bed Capacity	57	30	53	30	50	22	115	0	357
Beds/ 10,000	12.7	8.5	17.7	10.9	21.4	5.1	13.2	0	12.2

G. HUMAN RESOURCES

Human resources for health include administrative, professional, technical and ancillary personnel. The Ministry of Health has difficulty maintaining a complete human resource inventory of qualified staff due to many factors including active recruitment of health professionals by foreign countries. The Government of Belize is the main provider of education and training for health professionals. The growing private sector is also a direct competitor for this critical resource.

Currently, there is a concentration of physicians, nurses and other health professionals in the principal towns and cities, while distant communities with high proportion of rural and indigenous population are in need to improve their health and availability of health professionals.

The characteristics of the country require cultural adaptation in the distribution and allocation of human resources in health. Recruiting and hiring practices require identifying professional and labor competencies to incorporate adequate staff according to the needs of the population and for the improvement in the provision of health care services at different levels.

A core team of the Ministry of Health coordinates the process to design a National Policy for the Development of Human Resources in Health (HRH), creation of a HRH Unit in the Ministry of Health and integration of the Intersectoral Commission for the Development of HRH in Belize.

There is a need for systematization, expansion, collection, compilation, interpretation, analysis, publication and dissemination and use of information on HRH. A health information system with national coverage will include comprehensive electronic data of human resources in health in Belize. Professional associations and councils (medical/dental and nursing) have their own data bases and are updating their information.

Table No. 7 Health Staff Inventory Belize – 2004

Health Districts			Northern Region				Southern Region				Western Region				Central Region				Country	
			Orange Walk		Corozal		Stann Creek		Toledo		Belmo-pan		San Ignacio		KHMH		Belize		National	
POPULATION			42,800		34,600		27,900		26,000		20,281		38,403		81,400				271,384	
BED CAPACITY			57		30		52		28		44		18		109		0		338	
STAFF (# & per 10,000 pop)			#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Specialists	Private[2002]		5	1.14	4	1.14	3	1.04	0	0.00	4	1.97	6	1.56	0	0.00	85	10.10	**107**	**3.86**
	MOH		7	1.60	0	0.00	2	0.69	0	0.00	9	4.44	0	0.00	16	1.90	0	0.00	**34**	**1.23**
	Volunteers	Cubans	3	0.68	1	0.29	4	1.38	0	0.00	2	0.99	0	0.00	7	0.83	0	0.00	**17**	**0.61**
		Nigerians	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	**0**	**0.00**
	Total		**15**	**3.42**	**5**	**1.43**	**9**	**3.11**	**0**	**0.00**	**15**	**7.40**	**6**	**1.56**	**23**	**2.73**	**85**	**10.10**	**158**	**5.70**
General Practitioners	Private[2002]		13	2.97	12	3.43	9	3.11	3	1.12	1	0.49	5	1.30	0	0.00	39	4.63	**77**	**2.78**
	MOH		5	1.14	4	1.14	1	0.35	1	0.37	5	2.47	3	0.78	18	2.14	6	0.71	**43**	**1.55**
	Volunteers	Cubans	5	1.14	7	2.00	8	2.77	5	1.87	4	1.97	5	1.30	0	0.00	7	0.83	**41**	**1.48**
		Nigerians	2	0.47	0	0.00	2	0.72	0	0.00	0	0.00	0	0.00	1	0.12	0	0.00	**5**	**0.18**
	Total		**25**	**5.84**	**23**	**6.57**	**20**	**7.17**	**9**	**3.36**	**10**	**4.93**	**13**	**3.39**	**19**	**2.33**	**52**	**6.176**	**166**	**6.12**
Dentists			1	0.23	1	0.29	1	0.35	1	0.37	1	0.49	1	0.26	0	0.00	3	0.36	**9**	**0.32**
Public Health Nurses			2	0.46	2	0.57	1	0.35	1	0.37	2	0.99	1	0.26	0	0.00	3	0.36	**12**	**0.43**
Registered Nurses	MOH		35	7.99	14	4.00	6	2.08	8	2.99	28	13.81	7	1.82	103	12.23	22	2.61	**223**	**8.04**
	Volunteers	Cubans	6	1.37	0	0.00	6	2.08	0	0.00	4	1.97	1	0.26	17	2.02	0	0.00	**34**	**1.23**
		Nigerians	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	**0**	**0.00**
	Total		**41**	**9.36**	**14**	**4.00**	**12**	**4.15**	**8**	**2.99**	**32**	**15.78**	**8**	**2.08**	**120**	**14.25**	**22**	**2.61**	**257**	**9.27**
Rural Health Nurses			9	2.05	7	2.00	5	1.73	3	1.12	3	1.48	5	1.30	0	0.00	20	2.38	**52**	**1.83**
Public Health Inspectors			6	1.37	3	0.86	3	1.04	2	0.75	3	1.48	4	1.04	0	0.00	10	1.19	**31**	**1.12**
Pharmacists	MOH		2	0.46	2	0.57	1	0.35	1	0.37	2	0.99	1	0.26	6	0.71	7	0.83	**22**	**0.79**
	Volunteers	Nigerians	1	0.23	0	0.00	0	0.00	1	0.37	0	0.00	0	0.00	0	0.00	0	0.00	**2**	**0.07**
		Cubans	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	**0**	**0.00**
	Total		3	0.70	2	0.57	1	0.35	2	0.77	2	0.99	1	0.26	6	0.71	7	0.83	**24**	**0.88**
Medical Technologists	Private		0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.26	0	0.00	5	0.61	**6**	**0.22**
	MOH		1	0.23	1	0.29	0	0.00	0	0.00	0	0.00	0	0.00	2	0.25	10	1.23	**14**	**0.52**
	Volunteers	Nigerians	0	0.00	1	0.29	1	0.35	1	0.37	1	0.49	0	0.00	0	0.00	3	0.36	**7**	**0.26**
		Cubans	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	**0**	**0.00**
	Total		**1**	**0.23**	**2**	**0.57**	**1**	**0.35**	**1**	**0.37**	**1**	**0.49**	**1**	**0.26**	**2**	**0.25**	**18**	**2.21**	**27**	**0.99**
***Radiographers**	Private		0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	10	1.23	**10**	**0.37**
	* Public		1	0.23	1	0.29	1	0.35	0	0.00	1	0.49	0	0.00	7	0.86	0	0.00	**11**	**0.41**
	Total		**1**	**0.23**	**1**	**0.29**	**1**	**0.35**	**0**	**0.00**	**1**	**0.49**	**0**	**0.00**	**7**	**0.85**	**10**	**1.23**	**21**	**0.77**
CNAs			59	13.47	51	14.57	39	13.49	48	17.91	13	6.41	13	3.39	0	0.00	25	2.97	**248**	**8.94**

* Note: The areas not indicated, have Assistant Radiographers

H. HOSPITAL PRODUCTION

i. Hospital Base Production

In 2005 General Practitioners at the community hospital in San Ignacio completed 21,650 consultations, specialists 1,121 and the dentist 1,775. A total of 1,661 patients were admitted to the hospital wards and 25,396 prescriptions were issued, 1,157 x-rays and 9,877 laboratory tests were ordered.

In 2005 General Practitioners at the community hospital in Toledo completed 29,815 consultations, specialists 750 and the dentist 803. A total of 1,602 patients were admitted to the hospital wards and 23,488 prescriptions were issued, 1,199 x-rays and 22,502 laboratory tests were ordered.

In 2005 General Practitioners at the community hospital in Corozal completed 21,542 consultations, specialists 5,568 and the dentist 464. A total of 1,263 patients were admitted to the hospital wards and 19,907 prescriptions were issued, 1,529 x-rays and 13,813 laboratory tests were ordered.

In 2005 General Practitioners at the Western Regional Hospital in Belmopan completed 27,391 consultations, specialists 7,846 and the dentist 754. There were 3,069 patients admitted to the hospital wards, 797 received surgery and a total of 29,929 prescriptions were issued, 3,206 x-rays and 43,278 laboratory tests were ordered.

In 2005 General Practitioners at the Southern Regional Hospital in Dangriga completed 28,473 consultations, specialists 5,034 and the dentist 585. There were 3,124 patients admitted to the hospital wards, 620 received surgery and 38,832 prescriptions were issued, 3,013 x-rays and 50,313 laboratory tests were ordered.

In 2005 General Practitioners at the Northern Regional Hospital in Orange Walk completed 29,894 consultations, specialists 4,592 and the dentist 825. There were 3,597 patients admitted to the hospital wards, 989 received surgery and 30,566 prescriptions were issued, 4,565 x-rays and 39,679 laboratory tests were ordered.

The Karl Heusner Memorial Hospital in Belize City acts as the secondary institution for the Central Region as well as the referral hospital for the entire country. In 2005, the Accident and Emergency Department at the KHMH saw 26,609 cases while specialists completed 11,831 consultations and 8,705 patients were admitted to the hospital wards, 24,781 received surgery and 43,736 prescriptions were issued and 20,065 x-rays were ordered.

ii. Non Hospital Base Production

a. Malaria

The principal specie causing malaria in Belize is the *Plasmodium Vivax* parasite although *P. Falciparum* remains an important and dangerous threat in parts of the country. The reported cases of malaria for the last three years are 2001 – 1163, 2002 – 1113, 2003 – 1319, 2004 – 1065 and 2005 - 1549. The slide positivity rates for the parasite for the same period are 2001 – 6.4%; 2002 – 7.2% and 2003 – 6.9% Total numbers of communities sprayed in 2002 was 108 (cycle 1) and 107 (cycle 2). Total numbers of houses sprayed for the same period was 13,617 (cycle 1) and 13,702 (cycle 2) with

populations covered of 55,019 (cycle 1) and 55,122 (cycle 2) using 1,442 lbs of deltamethrin for cycle 1 and 1,365 lbs for cycle 2. In 2005, communities sprayed was 109 for cycle 1 and 94, cycle 2; houses sprayed 12,935 and 12,084; populations covered 50,774 and 47,216 using 992 lbs and 832 lbs of deltamethrin respectively.

b. Expanded Program of Immunization

The table below demonstrates vaccine coverage for children under one year for the period 2000 to 2005

Table No. 8 Immunization Coverage for Children Under One Year, Belize 2000 to 2005

Year / Vaccine	2000	2001	2002	2003	2004	2005
BCG	96.0	98.0	96.2	98.9	99.8	96.1
DPT3	91.0	96.0	88.7	95.8	96.5	95.9
OPV3	91.0	96.0	93.0	95.1	96.5	96.2
MMR 1	96	93.6	88.3	95.8	96.8	95.3
MMR 2	-	-	-	-	-	87.3
Hep. B - 3	-	76.0	96.8	95.8	96.5	95.9
DPT/Hep/Hib/(Pentavalent)	-	-	-	-	96.5	95.9

III. NATIONAL PROGRAMMATIC HEALTH AREAS

A. NATIONAL HEALTH PROBLEMS

- High prevalence of communicable diseases such as malaria, respiratory diseases and intestinal illnesses.
- High mortality rate from non-communicable diseases. Cardiovascular diseases appear as a significant cause of death not only in the elderly but also in the productive age population of 20-49.
- There has been an increase in health problems related to human behavior and lifestyle such as injury, road traffic accident, violence adolescent pregnancy, abortions, STI'S HIV/AIDS and suicide.
- Anaemia, malnutrition growth retardation and diabetes.
- Limited equity in terms of access to health care and distribution of resources.
- Inefficient health care delivery system.
- Limited capacity for policy formulation, and regulation of the health sector.
- Absence of a human development policy and plan.
- Limited quality assurance.
- Outdated legislations and areas of health care delivery not yet regulated.
- Limited clinical protocols for patient management.
- Limited technical operational manuals for program implementation.

B. NATIONAL HEALTH PRIORITIES

Considering the national health situation and in line with the National Health Goals, the following health priorities have been identified to be addressed in this plan:

- Essential Public Health Functions:
    - Regulation and Enforcement
    - Human Resource Development
    - Quality Assurance
    - Research Strengthening
- Non-communicable diseases and lifestyle related problems
- HIV/AIDS
- Prevention and management of violence (domestic violence and child abuse)
- Health Promotion
- Sexual and reproductive health
- Maternal and Child health (Maternal and Infant mortality, EPI)
- Epidemiology
- Health Information Systems (BHIS, Vital registration, health accounts, WinSig)
- Health sector reform
- Environmental health
- Disaster preparedness and management

C. NATIONAL HEALTH GOALS

- To ensure universal access to an agreed upon set of health services of acceptable quality utilizing the strategy of primary health care,
- To ensure healthy growth and development of children and adolescents,
- To improve the health, well being and development for all men and women in such a way that health disparities between social groups are reduced,
- To enable all people to adopt and maintain healthy lifestyles and behavior,
- To enable universal access to safe and health environments and living conditions,
- To eradicate, eliminate or control major diseases that constitute national health problems,
- To reduce avoidable disabilities through appropriate preventative and rehabilitative measures,
- To strengthen policy, planning, information systems, organization and management in the public sector, in partnership with the private sector,
- To improve efficiency, effectiveness accountability and sustainability
- To ensure the ongoing viability and sustainability of both the public and the private health sector

D. TECHNICAL AREAS

In order to address all the public health issues previously identified, the Ministry of Health implements activities through structured programmatic areas, which are described below.

i. EPIDEMIOLOGY

Purpose of the Program:

The Epidemiology Unit is responsible for collection, compilation, analysis/ interpretation of health data and the dissemination of health information to support decision making on current and emerging health situation at the local, regional and national levels. The unit is also responsible for disease surveillance, outbreak investigation and control of communicable and non-communicable diseases.

Services Provided:

- Periodic reports on the status of communicable and non-communicable diseases
- Making data on morbidity and mortality available to health personnel and to the public in general

ii. NATIONAL STI/HIV/AIDS PROGRAM

Purpose of the Program:

The National AIDS Program, a Preventative Public Health Program, is the Ministry of Health response towards the prevention, treatment and care of persons living with STI/HIV/AIDS. It is a planned activity aimed at making full and rational use of the technical knowledge and health resources available.

Services Provided:

- Information, Education and Communication: This involves public education as well as continuing education for healthcare workers utilizing different mediums including workshops.
- Counseling: Pre and post-test counseling are essential components for good clinical care of individuals at risk or infected with STI/HIV. Counseling is integrated with all HIV testing, screening and care.
- Diagnosis: Healthcare workers in all six districts have been trained to diagnose STI and HIV/AIDS based on clinical manifestations. The Central Medical Laboratory plays an important role in the diagnosis of these diseases.
- Treatment: Medications for STIs and HIV/AIDS are available in Belize.
- Contact Tracing: Prompt and thorough contact investigation is essential to break the transmission of STI/HIV/AIDS.

iii. NATIONAL TUBERCULOSIS PROGRAM

Purpose of the Program:

The National Tuberculosis Program, a Preventative Public Health Program, is a methodical approach of the Ministry of Health towards alleviating and in the long term eliminating suffering due to all forms of tuberculosis. It is a planned activity aimed at making full and rational use of the technical knowledge and health resources available.

Services Provided:

- Diagnosis: Healthcare workers in all six districts have been trained to diagnose Tuberculosis based on Medical History (Clinical Symptoms), X-ray, Tuberculin Skin Test and Bacteriologic Examination (Sputum).
- Treatment: Treatment regimens have an initial (intensive) phase lasting 2 months and a continuation phase usually lasting 4-6 months.
- Chest Clinic: this clinic serves as a national referral center for suspected clients or patients with Tb and care is provided by a Medical Specialist.
- Contact Tracing: there is a high likelihood that a person with smear-positive pulmonary tuberculosis will transmit tuberculosis. Prompt and thorough contact investigation is essential for the control of this disease.

iv. MATERNAL AND CHILD HEALTH

Purpose of the Program:

The program is established with the purpose of facilitating a health care environment where there is an improved access, coverage and quality of basic care for mothers and children.

Services Provided:

- Pre and Postnatal integrated health care for women: this includes the monitoring and management of normal pregnancy, gynecological and obstetric pathologies

- Child Health:
  - ✓ Vaccination of children against immuno-preventable diseases
  - ✓ Provision of micronutrients for children, namely: vitamin A and iron supplements
  - ✓ Surveillance of immuno - preventable diseases in children
  - ✓ The prevention and control of HIV transmission from mother-to-child
  - ✓ Prevention and control of Acute Respiratory Infections

- Sexual and Reproductive Health Services
  - ✓ The aim of this service is to provide reproductive health care based on specific reproductive health needs of individuals and the community.

The services are delivered through a network of eight urban and thirty-seven rural health centers that

are staffed by Public Health Nurses, Nurse Practitioners, Rural Health Nurses, Domestic Auxiliaries and Driver/Mechanics. Community Nursing Aides and Traditional Birth Attendants form an important link between the programme and the community.

v. MENTAL HEALTH PROGRAM

Purpose of the Program:

To achieve the best mental health status for all Belizeans by providing services to prevent and reduce the incidence of mental illness and by providing adequate delivery of accessible, efficient, cost effective and user friendly psychiatric services.

Services Provided:

- The mental health program serves the needs of persons with mental disorders, enhance their quality of life and create networks that guarantee the delivery of care within the community. The services provided are organized and implemented throughout the country at the three levels of care.

- Out- patient Services
  - ✓ Crisis Intervention
  - ✓ Therapeutic Services to individuals and families
  - ✓ Mobile Clinics

- In-patient Service:
  - ✓ Rockview Hospital
  - ✓ Acute Psychiatric Unit/ Belmopan Hospital
  - ✓ Consultation Liaison
  - ✓ Rehabilitation

- Community Services
  - ✓ Outreach Program
  - ✓ Ancillary Services

vi. DENTAL HEALTH

Purpose of the Program:

To promote oral health, and prevent and control dental morbidity

Services Provided:

- dental care to pregnant women
- outreach mobile clinics to rural areas
- dental health education including the mass media
- urban and rural school visits
- in-patient surgical services

vii. NUTRITION

Purpose of Program:

The purpose of the Nutrition Program is to assist in the improvement of the nutritional status of the Belizean population through health education, health promotion and the monitoring and evaluation of nutritional status.

Services Provided:

- training of human resources in nutrition
- training of public health personnel to address malnutrition in children and pregnant women
- dissemination of information related to chronic diseases
- strengthening of hospital dietetic services

viii. HEALTH EDUCATION/PROMOTION

Purpose of Program:

To contribute to the improvement of the health of individuals and communities and to the attainment of acceptable levels of equity in health, through health promotion, health education and community mobilization

Services Provided

- Health Education/Promotion advocates for the development of policies promoting and maintaining health practices, knowledge, and attitudes which impact positively on the health status and quality of life of the population. It promotes active community participation in the development of policies and programmes designed to benefit the general population as well as special groups. Special priority areas of emphasis are:

  - ✓ HIV/AIDS
  - ✓ Diabetes Mellitus
  - ✓ Hypertension
  - ✓ Road Safety
  - ✓ Tobacco Smoking Control
  - ✓ Domestic Violence (Gender Based Violence)
  - ✓ Emergency Management

ix. ENVIRONMENTAL HEALTH

Purpose of the Program:

To contribute to and support the development and maintenance of clean, safe and healthy environment in order to reduce the prevalence of public health problems that are associated with poor environmental conditions.

Services Provided:

- Food safety
- Water Quality Monitoring
- Solid and Liquid Waste Management
- Vector Control
- Diagnosis and treatment of Malaria
- Zoonotic diseases surveillance, prevention and control
- Port Health and Quarantine
- Premises Inspection and certification
- Acute Pesticide Intoxication Surveillance
- Investigation of Public Health Complaints
- Monitoring of recreational areas
- Institutional Health
- Occupational Health and Safety

E. SUPPORT SERVICES

i. CENTRAL MEDICAL STORES UNIT

Purpose of the Program:

To ensure a continuous supply of good quality Pharmaceuticals, X-ray, Laboratory, Surgical and other related medical supply products within the Central Medical Stores for public use, through timely cost-effective procurement and through adequate and efficient distribution to all areas of need.

Services Provided

- Central Medical Stores Unit provides supporting services to program areas such as Maternal and Child Health, Environmental Health, vector Control, Dental and Health Education & Community Participation Bureau for the development and implementation of their plans and activities. It also supports other Supporting Units such as X-ray and Laboratory and all public medical facilities countrywide.

ii. PHARMACY

Purpose of the Program:

- To ensure safe and effective supply of medications to the population.

Services Provided:

- Provision of medication in accordance with the doctors orders
- Compounding of extemporaneous preparation
- Patient counseling and education
- Liaise with Rural Health Nurses to ensure availability of medications
- Licensing and accreditation for pharmacists and pharmacies

iii. RADIOLOGY

Purpose of Program:

To provide imaging services in support of clinical diagnosis

Services Provided:

- Processing of radiographs, ultra-sonographs, mammograms and Cat-scans in a safe and controlled environment
- Storing of radiographs and other imaging records for future reference
- provision of radiograms, Ultra-Sonograms, mammograms and computerized tomograms of patients to their physician for diagnostic purposes
- Provision of radiographic and ultra-sonogram reports to physicians by the Radiologist(s)

iv. CENTRAL MEDICAL LABORATORY SERVICES

Purpose of the Program:

To provide timely and reliable laboratory diagnostic services that are confidential and of a high quality for patient management, surveillance and health planning

Services Provided:

- Referral services for all public and private laboratories
- Bacteriology, serology, cytology, histology, special chemical and haematological analyses
- Blood banking services

v. NATIONAL ENGINEERING & MAINTENANCE CENTER

Purpose of the Program:

To provide maintenance services for all medical and office equipment, buildings and vehicles for the Ministry of Health.

Services Provided:

- repair of all medical devices ensuring that they function according to manufacture's recommendations for patient safety
- maintenance and repair of Ministry of Health vehicles
- maintenance of medical equipment especially in the areas of Operating Theatres, Intensive Care Units, Post Anaesthetic Recovery Room, Special Baby Care Unit, Imaging Unit, Laboratory Services.

vi. PERSONAL CARE

Description of Services:

This is care required by individuals to meet their health maintenance, cure or rehabilitation needs throughout the life cycle. This type of service recognizes individual rights and responsibilities in seeking health care.

Purpose:

The purpose is to provide accessible clinical and rehabilitative care to individuals and families at the primary, secondary and tertiary levels in keeping with the fundamental principles of health sector reform, including quality, equity, efficiency, effectiveness, sustainability and community participation.

Legislation:

Through an extensive period of consultation in partnership with other major stakeholders in the health system, the GOB has developed a framework of regulations to govern the practice of medicine in Belize and ensure a uniformly high quality of care to all its citizens. Draft legislation has been prepared to empower this regulatory framework and is in the final phase of consultation and development before submission to the cabinet for approval. These drafts include:

- Public Health Act Amendment Bill.
- Medical Practice Act.
- Opticians Amendment Act.
- Nurses and Midwives Bill.
- Pharmacy Act.
- Allied Health Professionals Act.
- Health Services Bill

vii. HEALTH SECTOR REFORM PROJECT

Purpose of the Program:

To ensure reform objectives are met including service rationalization, infrastructure improvement, monitoring and regulation and achieving sustainable financing.

Priority Area:

- Reorganization of service delivery and administration
- Separation of functions (Service delivery, regulation and financing)

F. TECHNICAL COOPERATION

The health priorities as identified by the Ministry of Health have been addressed through workplans in cooperation with other sectors of Government and International Organizations.

The Pan American Health Organization and other United Nations Agencies such as UNICEF, UNFPA, UNDP, have played a vital role in the implementation of national plans. Assistance has been forthcoming in defining strategies and provision of technical assistance. Priorities within the primary and secondary level are targeted through joint efforts, either exclusively at a national level or through regional initiatives.

PAHO has greatly assisted in both primary and secondary care settings by facilitating actions geared towards the prevention and control of diseases and through training of health care personnel. UNICEF has always targeted the welfare of mothers and children. UNFPA and UNDP have contributed in addressing priorities of HIV and AIDS.

Through bilateral agreements with the Governments of Cuba, Nigeria and Mexico, great assistance has been received to fill gaps of human resources. The Government of Cuba has assisted with physicians, nurses and technical officers who have been placed in rural areas where their input has been significant. At regional hospitals Cuban Medical Specialists have complemented the staff thereby allowing for 24 hour coverage of specialist services. The Federal Republic of Nigeria has also provided health care professionals and technical personnel to fill gaps in both urban and rural settings. This has allowed Belize to improve the secondary care services in all four health regions. Mexico has contributed significantly in the training of professionals at a post graduate level.

Border cooperation with Guatemala and Mexico has directly contributed to the prevention and control of immunopreventable and vector borne diseases such as Malaria and Dengue.

G. LOGICAL FRAMEWORK FOR THE NATIONAL HEALTH AGENDA 2007 - 2011

i. EPIDEMIOLOGY

Expected Results	Indicators	Activities
Detection and timely response to disease outbreaks strengthened	100% adherence to protocols for outbreak investigation by end 2009	Review and update protocols for outbreak investigation Train relevant public health officers in the protocols for outbreak Investigation Monitor and evaluate compliance through regional managers quarterly reports
Baseline data on the prevalence of Non Communicable Diseases and related risk factors established	Research on non-communicable disease of interest, identified through epidemiological data, conducted by end of 2009.	Conduct cross sectional study on the prevalence of diabetes, hypertension and tobacco use Research conducted on emerging non communicable disease identified
Baseline data on the incidence and prevalence of communicable diseases and related risk factors established	Research on communicable disease of interest, identified during period 2007-2009, through epidemiological data, conducted by end of 2009.	Research on emerging communicable disease identified
Systematic data collection and standard reporting system established	Belize Health Information System (BHIS) completed by March 2007 and functional by December 2007. Standardized reports received regularly as of March 2007.	Complete development of the BHIS Conduct training on the use of the BHIS Monitor and evaluate implementation of the BHIS
Provider based vital registration system developed	Health care providers performing registration of births and deaths by Dec 2007	Develop protocols for registration of births and deaths by health care Providers Conduct training in vital registration protocols Monitor and evaluate compliance with protocols
Indicators for the monitoring of health sector reform integrated into the Belize Health Information System	Indicators for the monitoring of health sector reform are reviewed and integrated into the BHIS by March 2007.	Review indicators for the monitoring of health sector reform Integrate indicators into the BHIS

Expected Results	Indicators	Activities
Capacity for the promotion and conduct of research is developed	Bio-ethical committee established by June 2007 At least one training workshop in research methodology conducted per health region by end 2007 List of priority areas for public health research identified by April 2007 Funds to facilitate research allocated in the recurrent budget of the Ministry of Health by April 2008	Establish bio-ethical committee Develop curriculum and conduct training in research methods Develop list of public health priorities for research Create cost centre for research in Ministry of Health budget

ii. MENTAL HEALTH

Expected Results	Indicators	Activity
Prevention of Mental and Psychosocial Disorders improved.	A public awareness plan developed and in the process of implementation by end of 2007 A mental health human resource plan is developed by end 2007	Develop a list of schools and topics for mental health education Develop an outreach program for the management of ambulatory patients Develop a public awareness plan (individual, family, community, work place Develop a mental health human resource plan
Management of individuals with Mental and Psychosocial Disorders improved.	40% of GPs trained by the end of 2007 and 90% by the end of 2008 in the management of patients with minor psychiatric disorders 60% of CNAs trained in basic assessment of patients with psychosocial and psychiatric disorders and referral protocols for patients with mental health problems by the end of 2007 80% of regional and community hospitals emergency rooms equipped and the staff trained in the management of acute mental disorders by end of 2007	Develop and implement the training plan for health personnel Establish appropriate referral mechanisms Develop the package of mental health services to be provided at all emergency rooms Develop a mental health information system module

Expected Results	Indicators	Activity
	Acute psychiatric services are available at KHMH by the end of 2007 Monthly Mental Health reports are generated and submitted by all mental health units by end of 2007. Review the National Drug Formulary to update the listing of psychotropic drugs end 2007.	
Psychosocial rehabilitation Program improved. Psychosocial rehabilitation Program improved.	Sheltered housing provided by MOH for patients with chronic disorders commencing end 2007 Three independent living houses are operational by June 2007 An occupational therapy center for patients with acute and chronic disorders is operational by end June 2007 Consumer organizations are formed countrywide by end 2007	Monitor the implementation of civil works Develop protocols for the admission, referral and discharge of patients Develop program for psychosocial rehabilitation Organize consumer groups countrywide
Legislative Framework for the provision of Mental Health Services enacted	The Mental Health Act of 1975 will be finalized by the end of 2007 and enacted by the end of 2008.	Review and update the legislation Enact the revised legislation Operationalize the enforcement of the new Mental Health Act

iii. STI/HIV/AIDS

Expected Results	Indicators	Activity
Policies, norms and standards on management and surveillance of STI/HIV/AIDS developed	Policies on the management and surveillance of STI/HIV/AIDS are developed by the end of 2007 and norms, standards and protocols by June of 2008. The Public Act is reviewed and updated as related to STI/HIV/AIDS.	Develop policy document on management and surveillance of STI/HIV/AIDS Develop norms, standards and protocols for the management of STI/HIV/AIDS Support the revision of the Public Health Act as related to Sexually Transmitted diseases.
STI/HIV/AIDS prevention and control improved	National training manuals, addressing the areas of public awareness, counseling, testing and clinical management developed and strengthened by the end of 2007 Post Exposure Prophylaxis (PEP) guidelines strengthened in all hospitals by end 2007 80% of relevant MOH personnel trained by the end of 2007 25% of non-health personnel trained by the end of 2007 100% of all STI/HIVAIDS patients and contacts receive counseling and standardized information. Public awareness plan for the prevention and control of STI/HIV/ AIDS with focus on counseling, voluntary testing, treatment compliance and preventive methods, is developed and in the process of implementation by the end of 2007. The efficacy of the PMTCT program is strengthened by increasing testing coverage for pregnant women to 95% and 100% of newborn of HIV positive mothers by end of 2007. A policy document for the management of STIs is	Design New STI/HIV/AIDS Training Manuals Implementation of training program for healthcare workers and non health personnel. Implementation of Education Program for STI/HIV/AIDS patients and contacts Conduct training activity in all districts for the implementation of the national PEP guidelines Develop a Public Awareness Plan Develop the capacity for the testing of newborns Strengthen the system for the testing of pregnant women

Expected Results	Indicators	Activity
	developed by Clinical management protocol for STIs is developed and in process of implementation by June, 2007 (improvement of testing).	
Optimal care for all STI/HIV/AIDS patients and contacts in Belize provided	80% of clients who attend PMTCT, TB and STI/HIV/AIDS services at district hospitals receive pre and post test counseling by end 2007. 80% of clients who attend PMTCT, TB and STI/HIV/AIDS services receive advice on safe sex. Elisa and CD4 tests strengthened and PCR testing capacity developed for laboratory diagnosis of STI/HIV/AIDS by end 2007. Voluntary Counseling and Testing Services are integrated into primary health services by June 2007. 100% of care providers are utilizing established clinical protocols for the management of STI/HIV/AIDS by end of 2007. 100% of patients receiving anti-retroviral (ARV'S) therapy are counseled on the importance of treatment compliance. Maintain the capacity to provide pharmaceuticals for the clinical Management of all People Living with AIDS, according to established guidelines.	Train 100% healthcare workers providing STI/HIV/AIDS related Services, in pre and posttest counseling and therapy. Conduct pre and post-test counseling, including advice on safe sex and compliance with therapy. Establish the system for laboratory testing, diagnosis, monitoring and evaluation for STI/HIV/AIDS. Establish three new VCTC. Update the Clinical Management Guidelines for HIV/AIDS Develop Clinical Management Guidelines for STIs Incorporate STI/HIV/AIDS related pharmaceuticals into the National Drug Formulary.
Comprehensive surveillance system for STI/HIV/AIDS strengthened	100% of Public Health Services reporting to the National Health Information & Surveillance Unit on a monthly basis. 40% of private clinical and diagnostic health services reporting to the National Health Information & Surveillance Unit on a monthly basis	Public and private health facilities and diagnostic health services report regularly to the Epidemiology Unit Follow up and screen contacts Conduct research

Expected Results	Indicators	Activity
	80% of Contacts screened 80% of identified high risk groups are screened, for example: Health Care Workers HIV+ TB Prisoners and Prison Officers Research activities are implemented	

iv. TUBERCULOSIS

Expected Results	Indicators	Activity
TB policies implemented and regulations enforced	Policies on the management of tuberculosis enforced by end 2007 Policies on surveillance of tuberculosis developed by the end of 2007 The Public Health Act is reviewed and updated as it relates to tuberculosis by end of 2007	Monitor and evaluate adherence to tuberculosis norms and standards Develop policy document on surveillance of tuberculosis Review and update the Public Health Act as it relates to Tuberculosis
TB prevention and control awareness improved	A national training program developed for healthcare workers and non-health personnel by 2007. 100% of MOH personnel trained by the end of 2007 TB patients, contacts and general population receive standardized TB Prevention and Control Education commencing mid 2007	Design and implement TB Training Program Implement Education Program for TB patients, Contacts and general population.
Optimal care for TB patients and contacts in Belize provided	90% of Tb cases are accurately diagnosed by end 2007 90% Tb cases are treated according to protocol by end 2007 Sputum smear microscopy performed at All District Health Laboratory by end 2007	Train physicians in the detection and management of tuberculosis Treat cases according to protocols of management Acquire Microbiology Safety Hood for each District Health Laboratory and Central Medical Laboratory

Expected Results	Indicators	Activity
	Culture and anti-microbial sensitivity of all TB cases is performed at the Central Medical Laboratory by mid 2007 Quality of diagnosis and classification of TB patients at the Central Medical Laboratory is ensured by mid 2007	Perform Sputum Smear Microscopy at district level Perform culture and anti-microbial sensitivity to sputum samples Develop protocols for validation of smears
Comprehensive surveillance system for TB strengthened	100% of Public Health Services reporting to the National Health Information & Surveillance Unit on a monthly basis by mid 2007 40% of private clinical and diagnostic health services reporting to the National Health Information & Surveillance Unit on a monthly basis by end 2007 80% of Contacts screened by end 2007 80% of identified high risk groups are screened by end 2007	Undertake diagnostic review of existing surveillance program Redesign or make improvements to program Compile data base on all private clinical and diagnostic health Services Monitor and evaluate system Screen all Tb contacts Identify and screen high-risk groups Perform Cohort analysis of treatment of Tb patients

v. VECTOR CONTROL

Expected Results	Indicators	Activity
The vector population that transmits Malaria and Dengue reduced Case detection and treatment for Malaria and Dengue is timely and appropriate The entomological surveillance for the Chagas vector incorporated into the Vector Control Program The Surveillance System	90% of houses in areas of high risk for malaria transmission are sprayed twice per year House and container index reduced to 2% Larvae population in large breeding sites reduced Weekly cycles of ULV spraying conducted from June to January in priority areas	Implement residual indoor house spraying in all six districts in priority localities Implement ULV spraying in all six districts towns and priority villages Treat all domestic containers that are positive for the aedes agypti larvae Management of extensive breeding sites

Expected Results	Indicators	Activity
strengthened. Public awareness in the prevention and control of malaria, dengue and Chagas disease increased. Intersectoral cooperation in addressing vector borne diseases strengthened		
Management of malaria and dengue cases improved	90% of malaria\dengue detected and treated according to protocols 90% of blood results are available within one week from sampling for malaria	Provide presumptive treatment for all suspected malaria cases Provide all positive cases with full radical treatment Collect surveillance data from CV's and CNAs weekly Implement the serological testing of dengue at the Central Medical Laboratory Improve the collection and documentation of blood samples for dengue serology Carry out contact tracing on a timely basis for malaria and dengue
Entomological surveillance for Chagas vector incorporated into the Vector Control Program	Vector control personnel actively involved in Chagas surveillance by mid 2007 Information on Chagas becomes an integral part of vector control reports	Conduct surveillance activities for Chagas Produce monthly Chagas surveillance reports and incorporate in vector control program reports
The surveillance system strengthened	Surveillance activities for vector borne diseases carried out according to established protocols by end 2007	Collect and disseminate information on vector borne disease through established channels Sensitize both public and private health care providers to vector borne diseases in their region Ensure all VCs, CNAs, Vector Control personnel, physicians and nurses report cases of vector control diseases
Public awareness in the prevention and control of vector borne diseases increased	Plan for information, education and communication for the public developed by end of 2007	Implement the information, education and communication plan
Intersectoral cooperation in addressing vector borne disease strengthened	Multiple sectors cooperating in activities to manage vector borne diseases	Convene intersectoral meetings to address vector control activities Sensitize other social partners in the prevention and control of vector borne diseases

vi. HEALTH EDUCATION/PROMOTION

Expected Results	Indicators	Activity
Health promotion on HIV/AIDS, Diabetes, Hypertension, Road Traffic Safety, Nutrition and Domestic Violence strengthened.	Situational Analysis of the five priority health problems conducted and reports available by the end of 2007. Develop a national health promotion plan of action based on the Caribbean health promotion charter by end of 2007. Capacity of the Regional Health Teams for the implementation, monitoring and evaluation of the national health promotion plan developed by mid of 2007.	Complete situation analysis with respect to five priority areas Conduct KAP studies in the five priority areas Develop national health promotion plan. Design training material for different categories of health care providers based on identified needs Develop guidelines for the implementation, monitoring and evaluation. Implement training. Develop socially sensitive health promotion packages.
Framework for Tobacco Control implemented Regional Capacity for Health Promotion strengthened.	Framework Convention on Tobacco Control ratified by January 2007 Update the national tobacco control plan by March 2007 Dissemination and promotion of the national tobacco control plan by end of 2007. Legislation enacted to support the control of tobacco use by August 2007. Implementation of the national tobacco control plan by 2007. HECOPAB coordinator participating in monthly Regional Management Team meetings by April 2007. Work programmes developed, presented and approved by Regional Management Teams by June 2007. Progress reports to Regional Management Teams submitted quarterly as of June 2007.	Facilitate the process of ratification of the Framework Convention on Tobacco Control. Review and update the national tobacco control plan. Develop and implement promotional package on tobacco control. Develop a no smoking policy for the health sector. Develop legislation on tobacco control Develop implementation plan Develop work programme Implement, monitor and evaluate work programme Report progress to the Regional Health Councils through the District Management Team
The integration of health promotion in the Ministry of Health's programmatic areas improved.	HECOPAB consistently participates in the annual budget planning exercise, the development of the five year health plan and the annual plan of action as of January 2008. Each health programmatic area includes a health promotion and disease prevention component by January 2008.	Participate in planning and budgeting exercises. Support the different heads of programmes in the development of the health promotion component of the respective programmatic areas.

Expected Results	Indicators	Activity
Coordination for visiting Medical Teams strengthened.	Guidelines for the provision of voluntary medical services developed and disseminated in country and abroad by end 2005.	Review, update and disseminate guidelines for the provision of voluntary medical services.
	Systems for processing of requests and the mobilization of voluntary medical teams developed by January 2007.	Post guidelines for voluntary medical services on Ministry of Health website. Review and update the protocol for the processing of requests, deployment and monitoring of voluntary medical teams.
	Key persons sensitized regarding their roles and responsibilities in the provision of voluntary medical services by June 2007.	Sensitize key persons regarding their roles and responsibilities in the provision of voluntary medical services.
	Information system developed for monitoring activities of voluntary medical teams by September 2007.	Develop an information system for monitoring activities of voluntary

vii. ENVIRONMENTAL HEALTH

Expected Results	Indicators	Activity
Effective monitoring of food safety, water supply quality and sanitation strengthend	The HACCAP analysis system institutionalized by the end of 2007 The system for the certification of food handlers and food establishments is improved by the end of 2007 A data base of food establishments and food handlers is developed by June 2007 Regional data-bases for potable water sources developed by June 2007. Surveillance system for water quality developed by end 2007. The Belize National Drinking Water Quality Standards enacted by end 2007. Surveillance system for sanitation developed (which includes private premises, municipal waste disposal systems, medical and other industrial waste disposal and business establishments) by end 2007.	Develop guidelines and protocols for the implementation of HACCAP. Conduct training in HACCAP analysis system. Develop curriculum and timetable for continuous education as part of criteria for certification of food handlers and food establishment managers. Facilitate training for food handlers and food establishment managers. Define variables and develop data-base for food handlers and food establishments. Develop data-base for potable water sources. Develop surveillance system guidelines for water quality control and conduct training. Submit National Drinking Water Quality Standards Bill for enactment. Develop comprehensive surveillance system guidelines for sanitation and conduct training. Develop national guidelines for medical waste management and facilitate training.
Human rabies prevented and controlled National Hurricane Preparedness Plan strengthened and Mass Casualty Management Plan developed and implemented.	Zoonosis committee strengthened by end of year 2007 Sectoral rabies control plan developed by June 2007. Financial allocation for rabies control by GOB increased in 2007-2008 fiscal year. Rabies surveillance system developed and in process of implementation by end of year 2007. National Hurricane Preparedness Plan reviewed and updated annually. Mass Casualty Management Plans for the regions developed by end 2007. Regularly scheduled disaster simulation exercises conducted for each region by end of 2007.	Develop administrative manual for the zoonosis committee. Develop and implement sectoral rabies control plan. Submit budget requirements for rabies control activities as part of annual budget exercise. Develop and implement rabies surveillance system Include Indicators for the implementation of human rabies control in Service Level Agreements Develop the corporate headquarters disaster preparedness plan. Review and update the national hurricane preparedness plan. Develop mass casualty plans for each region. Schedule and conduct disaster simulation exercises for each region.

Expected Results	Indicators	Activity
Public Health Act Reviewed	Public Health act Revised by end 2007 and enacted by end 2008	Revised Public Health Act and submit for enactment Enact public health act
National system for the training of public health inspectors established and functional	Regional curriculum for training of public health inspectors adapted for Belize by January 2007 Capacity to begin training developed in the University of Belize (UB) by January 2007	Adapt regional curriculum for training of public health inspectors. Finalize memorandum of understanding between Ministry of Health, UB and PAHO for the implementation of the training programme. Identify resources required to begin training in UB. Facilitate UB in achieving the required standards for delivery of the programme. Recruit candidates and implement training of PHIs.

viii. MATERNAL AND CHILD HEALTH

Expected Results	Indicators	Activity
Maternal Mortality Rate Reduced	One safe Motherhood and Child Health Committee established and functioning in each district by the end of 2007 Perinatal norms systematically implemented in all health institutions by end 2007 Maternal mortality rate reduced by 50% by the year 2009, using 2004 data as baseline 95% of deliveries are attended by skilled birth attendants % of institutional births increased Antenatal coverage is increased to 90%	Implement the safe motherhood initiative Develop guidelines for the implementation of Perinatal Norms, including the protocols for the clinical management of Ob/Gyn conditions. Promote institutional deliveries. Facilitate deliveries by skilled birth attendants Conduct training for the implementation, monitoring and evaluation of Perinatal Norms. Include Indicators for the implementation of Perinatal Norms in Service Level Agreements. Promote family planning Maintain at less than 10% the mother to child transmission rate of HIV Prevention and control of cervical cancer programme improved

Expected Results	Indicators	Activity
Infant Mortality Reduced	One safe Motherhood and Child Health Committee functioning in each district Vaccination coverage of immuno-preventable diseases in children less than five years maintained above 95% Integrated Management of childhood illness in process of implementation by end of 2007 Infant Mortality Rate less than 15/1000 Live Births by end 2009 Neonatal Mortality Rate less than 10/1000 Live Births by end 2009 100% of children attending health facilities have a nutritional assessment done regardless of the reason of visit by end 2007 25% increase in the number of children receiving exclusive breastfeeding during the first 6 months of age by end 2007 100% of high risk deliveries are attended by pediatricians by June 2007	Conduct national breastfeeding survey Promote exclusive breastfeeding for the first six months Conduct monthly meetings for Safe Motherhood and Child Health Committee at district level Implement the EPI program Implement the Integrated Management of Childhood Illnesses Initiative Facilitate attendance of high risk deliveries by pediatrician
Priority vaccine preventable diseases controlled and/or eliminated	Maintain vaccination coverage of 95% in all villages Cold chain improved	Provide vaccine to children less than five years to complete schedule in fixed health facilities and mobile clinics, in public and private sector Provide tetanus vaccine (DT) to women in childbearing age, during pregnancy and puerperium Conduct timely supervisory visits to health centers, Districts and Regions on a timely manner Update the EPI manual Implement health promotion strategy for EPI Ensure cold chain management at all levels
Sexual and reproductive health improved	Health facilities providing sexual and reproductive health services using the family centered approach by end of 2007. Males accessing sexual and reproductive health services by end 2007 The efficacy of the PMTCT program is	Develop national plan on sexual and reproductive health for the next five years Develop sexual and reproductive health services manual Train staff in the provision of sexual and reproductive health services using the family centered approach

Expected Results	Indicators	Activity
	strengthened by end 2007.	Develop social mobilization strategy for sexual and reproductive health services Implement the PMTCT programme Promote voluntary HIV testing for all pregnant mothers. Promote HIV testing in 100% of new born to HIV positive mothers by end of 2006.

ix. NATIONAL ENGINEERING AND MAINTENANCE CENTER

Expected Results	Indicators	Activity
The decentralization process of the NEMC consolidated	Organizational structure, roles and functions of central and regional levels are clearly defined by June 2007. Maintenance operational manual developed and disseminated by end 2007.	Conduct maintenance needs assessment nationally. Develop administrative and operational manuals. Train appropriate staff in administrative and operational procedures.
A maintenance model and plan for all Ministry of Health equipment, buildings and vehicles, is designed and implemented.	Model and plan for the delivery of maintenance services in the public health system is developed and disseminated by January 2007. Implementation of plan initiated by June 2007.	Develop national model and plan for the delivery of maintenance services in the public health system. Develop regional maintenance plans. Train relevant staff at each level of service.
Staff mix is determined and a training plan is developed and implemented	Human resource needs assessment conducted by June 2007. Training plan developed and initiated by end 2007.	

x. CENTRAL MEDICAL LABORATORY SERVICES

Expected Results	Indicators	Activity
Clinical and Pathology Laboratory Services improved	Reorganization of the laboratory services by June 2007 Quality Assurance Systems developed and implemented by end of 2007 The laboratory information module of the BHIS developed and implemented by end of 2007 A cost efficient system to access laboratory equipment and reagents in a timely manner is adopted by June of 2007	Define an organizational structure Conduct process analysis Develop an operational plan based on the process analysis Design a management system Develop administrative manuals Develop technical operational manuals Develop appropriate standards for laboratory quality services Develop a system for the enforcement of laboratory standards Review and update design for the lab information system Develop software to computerize laboratory information system Produce monthly reports Conduct a cost benefit analysis on purchasing versus renting of laboratory equipment Conduct training and initiate implementation of all plans and systems
Public Health Laboratory Services established	Package of public health laboratory services defined by end of 2007 Indicators in support of surveillance of communicable and non communicable diseases developed and integrated into the BHIS by Dec of 2007 Site for the construction of the Public Health Laboratory identified and acquired by end of 2007 Functional and architectural design for public health laboratory developed by end of 2007	Define laboratory public health services in support of disease surveillance Develop an MOU with BAHA for the implementation of complementary services Define list of indicators and report templates to be included in the BHIS for disease surveillance Develop proposal for the siting, design and construction of the public health laboratory
Voluntary based National Blood Transfusion Services established	The National Blood Transfusion Service Operation Plan is revised by June 2007 Administrative and operational manuals developed by end of 2007 Human Resource Strategy developed	Review and implement operational plan Develop administrative and operational manuals Develop and implement human resource strategy Develop proposal for the siting, design and

Expected Results	Indicators	Activity
	Site for the construction of the National Blood Transfusion Center (NBTC) identified and acquired by end of 2007 Functional and architectural design for the National Blood Transfusion Center developed by end of 2007 Financing for construction of building is identified by end of 2007 Public Information and Communication Strategy developed	construction of the NBTC Identify funds for construction of building Develop and implement an information and communication strategy Develop an information system that is compatible with the Belize Health Information System of the Ministry of Health

xi. NUTRITION

Expected Results	Indicators	Activity
The national nutrition programme is reorganized and strengthened	Functional and organizational structure of the nutrition programme is developed by end 2007. INCAP/MOH human resource development plan in process of implementation by June 2007.	Develop operational/administrative manuals for nutrition programme. Operationalize existing human resource development proposal.
Public awareness regarding the importance of good nutrition in the prevention and control of disease is increased	A communication strategy for behavioral change is developed by end 2007 Plan of action for implementation of the communication strategy developed and in the process of implementation by July 2008	Conduct situational analysis on nutrition, including current knowledge, attitudes and practices. Develop strategic and action plans for the improvement of public awareness regarding nutrition including information related to dietetics.

National surveillance on nutrition is strengthened	Standard methodology for systematic collection of information regarding risk factors for chronic diseases by end 2007. Strategic plan for the reduction of risk factors developed by Dec 2007 and updated as necessary. Annual reports on growth monitoring institutionalized by end of 2007.	Develop research protocol and train relevant persons. Conduct periodic surveys on occurrence and distribution of risk factors for chronic diseases. Develop strategic and action plans for the reduction of risk factors for chronic disease. Include growth monitoring indicators and reports in the BHIS.
Rational use of micronutrients is improved	National policies on micronutrients reviewed by end 2007. Strategic plan developed for implementation of national policies on micronutrients by June 2008.	Conduct review of national micronutrient policy Develop strategic plan for implementation of national policies Implement plan

xii. PERSONAL CARE

Expected Results	**Indicators**	**Activity**
Patient management at primary, secondary and tertiary care level is improved	Further develop clinical protocols and initiate implementation by end 2007. National referral system institutionalized by end 2007 strengthened. Standardized patient medical records are accurately maintained by end 2007 Quality Assurance programme consolidated in Public Laboratory Services Medical Supplies and Pharmaceutical Management System developed and in process of implementation by end 2005 Imaging services modernized and upgraded by end 2007 Continuous medical education incorporated into relicensing of care providers by June 2007	Train relevant personnel in the development and use of clinical protocols. Monitor and evaluate implementation of clinical protocols through medical audits. Training in and enforcement of the referral system, through the service level agreements between MOH and the regions. Review standard medical record. Ensure accurate maintenance of standard medical records through service level agreements between MOH and the regions and performance contracts between PCPs and NHI. Assess laboratory services and equipment to determine adequacy of support capability to the medical services provided in the public system.

Expected Results	Indicators	Activity
	Health facilities are regulated to meet international standard by end 2007 Health regions are participating in the implementation of NHI according to established schedule	Finalize laboratory operational manuals to include quality assurance protocols. Develop and implement medical supplies and pharmaceutical management system. Review situational analysis and recommendations for the imaging services in the public system including functional requirements Develop a purchasing plan for imaging equipment and initiate implementation. Finalize CME requirements for relicensing with relevant regulating bodies. Establish the Licensing and Accreditation Unit of the MOH. Implement plan of action for the participation of the public health system in the NHI roll out

xiii. HUMAN RESOURCE

Expected Results	Indicators	Activities
National Policy of Human Resources in Health formulated based on the national context and the health needs of the population	Establishment of National Information System for HRH by end 2007 Strengthening capacity to analyze, interpret and apply human resources data by end of 2007 Characterization of the HRH in Belize by mid 2008 Policy document developed, published and disseminated by mid 2008 Proposal cabinet policy paper to the end of 2008 Establishment of HRH Intersectoral Commission by end 2008	HRH core team regular meetings Collection, compilation and definition of baseline data Integration of Human Resources in Health Unit Formulation and implementation of a national policy on HRH Periodic convening of national commission.

Expected Results	Indicators	Activities
Redistribution of health staff improves the coverage and equity in the provision of health care services to the population, including all social and ethnic groups in Belize	Establishment of Observatory of HRH by mid 2007 Recommendations on equal distribution of health staff by the mid 2008 Incentives plan for the mobilization of health personnel to priority areas by 2008 Redistribution policy approved and resources allocated by end 2008	Convening key stakeholders to participate in the Observatory of HRH Update information on the distribution of health workforce and needs Capacity to analyze, interpret and apply human resources data Advocacy for sectoral and institutional participation Technical, political and financial support of the process of redistribution of health staff
Established mechanisms for permanent monitoring of internal and external migration of health professionals in Belize.	Basic information available for policy and decision making on migration of health professionals by end 2007. National policy on migration on HRH by 2008. Legal support for mobilization of HRH by mid 2008. Execution of the national policy of redistribution of HRH by end 2008. Transparent process proposal of distribution of HRH by end 2007. Develop policies and guidelines for establishment of monitoring and evaluation plan.	Collection of HRH data base on internal and external migration. Periodical working team meetings. Publication and dissemination of information. Promote national and regional advocacy. Develop capacity in stakeholders in the execution of the defined mechanisms.

xiv. THE HEALTH SECTOR REFORM PROJECT

Expected Results	Indicators	Activity
Restructuring of the health sector	Ministry health headquarters assuming regulatory function by end 2007. Four health regions with regional management teams strengthened by June 2007. Policy Analysis and Planning Unit fully staffed by April 2007. Established, functional, regulatory framework for	Re-organize headquarters of the Ministry of Health to support its regulatory functions. Recruit required staff for the policy analysis and planning unit. Improve the financial management and budgeting systems within the Ministry of Health. Improve the Health Information System within the

Expected Results	Indicators	Activity
	the delivery of health Services in Belize by end 2007.	Ministry of Health. Improve procurement and bidding procedures for drugs and medical supplies. Introduce norms protocols and standards Review and enact legislation to support licensing and accreditation for health professionals and facilities. Fully staffed licensing and accreditation unit.
Service rationalization and improvement	Health care delivery reorganized by end 2007. Supporting infrastructure in place by end of 2007. Completed civil works programme including: KHMH acute psychiatric unit. Belmopan Halfway House. San Ignacio Community Hospital. Northern Regional Hospital Sewage System. Western Regional Hospital Renovation Punta Gorda Hospital Roof Re-Stabilization	Services public private local foreign identified Improve the quality of the physical infrastructure and equipment of the public sector through a civil works programme. Completed civil works programme including: KHMH acute psychiatric unit Belmopan Halfway House San Ignacio Community Hospital Northern Regional Hospital Sewage System Western Regional Hospital Renovation Punta Gorda Hospital Roof Re-Stabilization
Support to a national health insurance fund	National Health Insurance Agency purchases services of a guaranteed minimum quality from the public service up to the maximum capacity of those public services and then purchases select services from the private sector. (The NHIA is currently being tested in the south side of Belize City. Plans are in place for a phased 'roll-out' of this scheme to the rest of the country by 2008.)	Pilot purchasing of services from contracted health care providers. Define and establish an appropriate source of sustainable financing. Build capacity of a National Health Insurance Fund. Maximum Price Contract, tender and bidding procedures in use for drugs and medical supplies by end 2005.


MINISTRY of HEALTH
equal health for all