

**IMPROVING QUALITY HEALTH SERVICES**  
*A safer & healthier Belize by 2024*



**Pan American  
Health  
Organization**

Regional Office of the  
World Health Organization

**MINISTRY OF HEALTH  
BELIZE HEALTH SECTOR STRATEGIC PLAN  
2014-2024**

*April 2014*





# FOREWORD

## Minister of Health

The Government of Belize is committed to the health and wellbeing of the people of Belize. The 2014-2024 National Health Sector Strategic Plan reflects an innovative approach in the organization and delivery of health and wellness services to the population. It is framed in the realization that health interventions geared at achieving wellness are usually the purview of other important sectors/organizations. The WHO Health Determinants Framework is an important tool that was used to define which areas need to be addressed, what risk factors need to be looked at and which stakeholders need to be brought to the table in the spirit of cooperation and coordination.

The Plan also used a new approach in the development of the strategic objectives for the Ministry of Health. It is based on the WHO Health System Framework which identifies six key pillars in a health system: Governance and Leadership; Service Delivery; Financing; Human Resource in Health; Health Information systems; Medicines and Technology. The Ministry of Health under my leadership will seek to develop and strengthen the Belizean Health Care system in order to meet the needs of our population and contribute to the sustainable development of our nation. It will pursue the laudable goal of Universal Health Coverage in which equity of access to quality health care without the creation of financial barriers, and extension of coverage to the citizens in a sustainable, effective and efficient manner, will be two of the guiding principles in the engineering process. At its core is a health system that is people-centered.

I appeal to all stakeholders, including our very own health personnel as primary stakeholders in their own merit, to join together as we move forward in our focused attempt at preventing disease, promoting wellness, treating the sick, and rehabilitating those affected. Together we become stronger, more efficient and more resilient. Together we build a healthy, happy and wealthy population.

I wish to extend my sincere gratitude to all those who contributed in any way to the development of this plan. Keep in mind that the work is just beginning



Hon. Pablo Marin  
Minister of Health

# ACKNOWLEDGEMENT

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## ABBREVIATION

AIDS	Acquired Immune Deficiency Syndrome
BOOST	Building Opportunities for Our Social Transformation
CAMDI	Central American Diabetes Initiative
EPHF	Essential Public Health Functions
FAO	Food Agriculture Organization
GDP	Gross Domestic Product
HIV	Human Immuno Virus
HSSP	Health Sector Strategic Plan
HR	Human Resource
IHSDN	Integrated Health Service Delivery Network
KHMH	Karl Huesner Memorial Hospital
MDG	Millennium Development Goals
MOH	Ministry of Health
MICS	Multiple Indicator Cluster Survey
NHA	National Health Accounts
NHI	National Health Insurance
NEMC	National Engineering and Maintenance Centre
NCD	Non Communicable Diseases
PAHO	Pan American Health Organization
PCP	Primary Care Provider
STI	Sexually Transmitted Infection
SIB	Statistical Institute of Belize
UN	United Nations
UTI	Urinary Tract Infection
WHO	World Health Organization



## EXECUTIVE SUMMARY

This document represents the first Health Sector Strategic Plan developed by the Ministry of Health (MOH) and its stakeholders. The previous strategic plan was for a period of five years 2006-2011, and the focus was on health programs and interventions by the Ministry of Health with limited interactions with stakeholders. In order to achieve its vision of an “efficient and equitable health services” the MOH decided to change its approach to planning and develop a strategy that was more inclusive.

The major strategy is to develop an integrated health services delivery network that is based on primary care so as to achieve a greater outcome and impact on the health of the population, while at the same time being more efficient and sustainable.. Even though the constitutional responsibility for the delivery of health services to the population lies with the Ministry of Health, the Ministry of Health recognize that in order to successfully achieve the level of wellness desired for the population, there must be a good measure of shared responsibility with other partners. Thus, by acknowledging that health is a social product and that health problem stem directly and indirectly from root social and economic determinants it is fundamental to engage other social partners.

There are national and regional political challenges that affect the provision of health care services and need to be addressed by the Government of Belize. For this reason it is necessary to be proactive and consider those challenges in the planning of health care delivery by all partners. One challenge is climate change that impacts many spheres of social welfare such as agriculture and the overall environment. Respective participating actors must have in mind that their efforts must be strategic and aligned towards national goals. These partners include, but are not limited to: Community Based Groups, Non Governmental Organizations, Civil Society, Business Sector, Government Sectors and the United Nations Organizations in Belize.

In Belize and worldwide, the greatest challenge looming ahead is the issue of Chronic Non Communicable diseases. This challenge in particular calls for a multisectoral approach with a strong community and educational component. Addressing the issues of good nutrition and



healthy lifestyles’ will require a social and cultural change that is not easy to achieve; for this reason the focus of this particular plan calls for multi-stakeholder participation and the development of a health system that is based on primary health care, understanding that the concept of primary health care includes interventions in the areas of promotion, prevention, curative, and rehabilitative care. Other areas of great concern include violence and injuries and mental health.

The Health Sector Strategic Plan (HSSP) is built on the WHO Systems Thinking Approach which is people centered. The determinants of health for health equity have also been taken into consideration in the development of the plan. The six basic WHO principles for health systems such as Service delivery, Health workforce, Health information, Medical technologies, Financing, Leadership and governance guides the formulation of the health sector goals and objectives of the Ministry of Health. The HSSP 2014-2024 calls for the systematic application of current knowledge and future investments to generate new ideas to improve the health and well being of the population. It articulates policies and set target indicators that are timely and measurable. The HSSP was developed after several stakeholder consultations. A steering committee was formed to develop the plan based on summary reports obtained.

This document sets out the blueprint for a very dynamic and exciting journey as we forge ahead in the re-engineering process for the health sector. It provides us with opportunities for cooperation and joint initiatives in addressing the priority concerns for the Belizean population. It also allows us to share responsibility with important stakeholders as we strive to develop and instill a framework for wellness that will go a long way in terms of having and maintaining a strong, productive and healthy population.

## Vision

The health sector envisions a healthy empowered, productive population supported by an effective network of quality services and effective partnerships for wellness.

## Mission

The Ministry of Health will engage partnerships through innovative and collaborative efforts that will support the provision of effective services geared towards the wellness of the population and national development.

## Core Values:

- \* People Centered Services
- \* Social Justice
- \* Equity
- \* Respect for human rights and individual dignity
- \* Accessible, Available, Affordable Health Care
- \* Leadership
- \* Transparency and Accountability
- \* Efficiency and Effectiveness
- \* Quality



## Purpose of the Plan

The Government of Belize through the Ministry of Health is committed to managing and improving the health of its people. Healthy people are the foundation for national development, and to this end the Belize health sector needs to adapt to the changing needs of the population, if we are to achieve the sectoral goals. Furthermore, the health sector will strategically harmonize

and align national and international health strategies and plans.

The Health Sector Strategic Plan provides an overall framework of health priorities; its major aim is to contribute towards the overall development goals for the Government of Belize. The General Objectives are:

- \* Plan for the sector as a whole, based on previous achievements and needs still to be met;
- \* Ensure all stakeholders have a common vision for the sector's development;
- \* Clarify the roles of stakeholders and promote coordination and increase collaboration among partners;
- \* Combine efforts among stakeholders to optimize the use of available resources (human, financial, logistical, etc.) to reduce duplication and promote synergies;

The successful implementation of this plan can only be possible through the commitment of the health sector and collaboration of the general population.

## Methodology

### *Developing the HSSP*

The HSSP was developed under the direction of the Ministry of Health, in collaboration with other social partners and stakeholders, including but not limited to Government Ministries, Professional Organizations, United Nations Agencies, NGOs and the private sector. The Pan American Health Organization (PAHO/WHO) provided resources for the development of the Health Sector Strategic Plan.

A steering committee was formed to lead the development process of the HSSP. This steering committee was led by the Policy Analysis and Planning Unit, Technical Advisors in the MOH, Regional Health Managers and the office of the Director of Health Services, and the Health System Advisor PAHO/ WHO country office.

Relevant reports of the health sector such as statistical information, studies and health related reports were used as references, also the Ministry of Health Annual Reports, previous strategic plan and operational plans, and the National Health Agenda. The national plan, Horizon 2030



and other regional and international plans and agreements such as the Millennium Development Goals, post 2015 agenda and, Universal Health Coverage also shaped the analysis of the current health status of the country. The need for the transition from a vertical program system to an integrated health care system focused on primary care, and efficient use of resources is important to improve effectiveness in the Health Services.

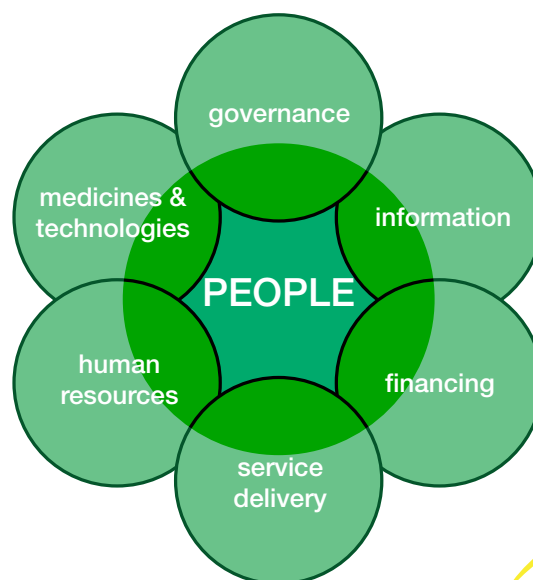
### *Stakeholder Consultation*

The health status of the population is not the sole responsibility of the Ministry of Health. Thus, it was necessary to have inputs for all health related stakeholders and the community. The process for development of this Health sector plan was initiated in January 2013. There were several stakeholder consultation meetings and workshops with individuals representing several government and non-government organizations involved in policy, planning, support and delivery of health care and services. Participants included individuals at all levels across the health system, such as health care providers, allied health professionals, social workers, health administrators, health educators, policy and planners, surveillance and environmental health officers and support staff, among many others.

Based on these consultations and review of documents the steering committee developed a draft plan. A consultation survey was conducted to support the process of obtaining further information from technical advisors and other stakeholders. A final multi-sectoral consultation with participants from previous sessions was conducted to present the final draft of the plan. This gave the partners the opportunity to provide recommendations, which were thereafter taken into account and included in the final plan as appropriate.

### *A System Thinking Approach*

The World Health Organization (WHO) notes that system thinking is an approach to problem-solving that views “problems” as part of a wider dynamic system. The WHO Framework for Action for health systems strengthening identifies six building blocks of a health system:



- Service delivery
- Health workforce
- Health information
- Medical technologies
- Financing
- Leadership and governance

A systems thinking approach puts the focus on the relationships and interactions between these building blocks, recognizing that interventions in one area will have impacts (positive or negative) on another. For example, addressing issues in service delivery may require interventions that address the health workforce, which in turn may require interventions on financing and leadership, and so on.

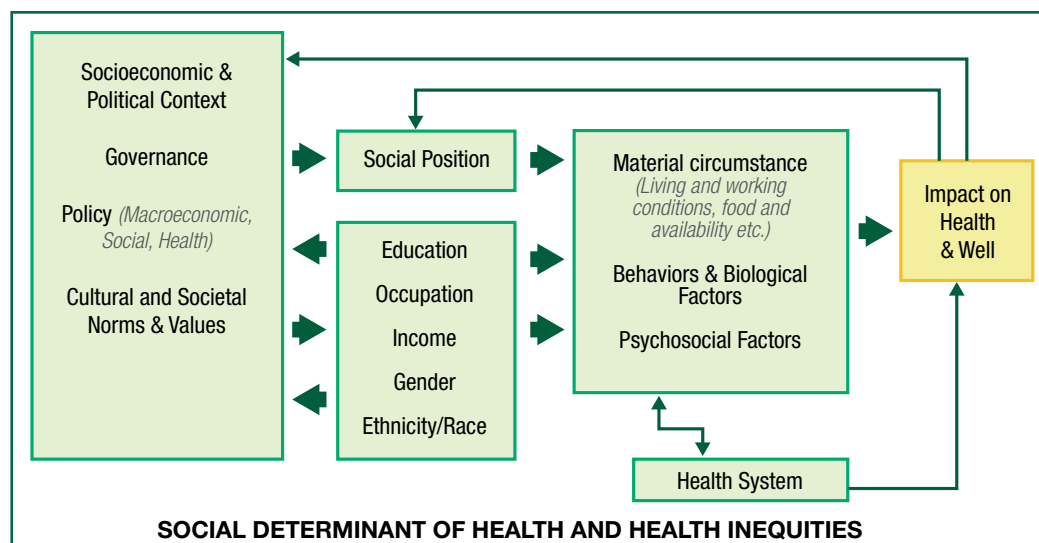
The benefit of a systems thinking approach is the recognition of these complex interactions among sub-systems, which provides a basis for designing solutions that more precisely reflect the real world dynamics, thereby increasing their effectiveness at overcoming barriers and issues.

The seven goals of the HSSP closely follow the model of health system building blocks identified by WHO, with slight variations reflecting the unique priorities and context of Belize.

The process and approach for developing the HSSP recognizes the role that individuals and organizations in the public, private and community sectors have in promoting, restoring and maintaining health, and the inter-connectedness of various organizations, units and individuals within the health system. This theme is found throughout the plan and reflects a “systems thinking” approach adopted for the plan’s development.

### *Conceptual Frame work*

It has been realized that social factors affect health and health equity in a population. Therefore, strategies and interventions are required to address the determinants of health, including structural conditions of the society in relation to the daily conditions in which people grow, live, and work at all levels. This should apply from the global to local levels, and across government, inclusive of all stakeholders from civil society and the private sector.



The Commission on Social Determinants of Health Conceptual (CSDH,2008)Framework is the platform used in the development of the Health Sector Strategic Plan. The Ministry of Health acknowledge their central role in leading the public health sector, however actions necessary to address the social determinants of health for health equity is also a joint effort between other government ministries, and other actors such as civil society, academic institutions, private sector, the community and global institutions and agencies. The health and well being of a person and the population is impacted by various contributing factors. The decisions and policies developed by government, cultural and social norms and values, political and governance structure affect the education level, occupation, income level, and gender equality of the population and these in turn have an impact on the psychosocial, behavioral, and material circumstances. Furthermore, these components have an effect on the health system which in turn impacts upon the individuals, community and population. At all levels the social determinants of health will influence the population's ability to maintain health and wellness. This plan is intended to bridge the gaps and address both health concerns and social issues that have an impact on the wellness of the population.

## Contextual Analysis

### *Population and Demographic Profile*

Belize is located in Central America; it shares a border with Mexico to the north, Guatemala to the west and south, and with the Caribbean Sea to the east. The total land area of Belize is 22,700 km<sup>2</sup>. The country has a culturally diverse population estimated at 340,792 (170,397 males and 170,395 females) according to the Statistical Institute of Belize population estimates for 2012. Belize is comprised of six administrative districts: Belize, Cayo, Corozal, Orange Walk, Stann Creek, and Toledo.

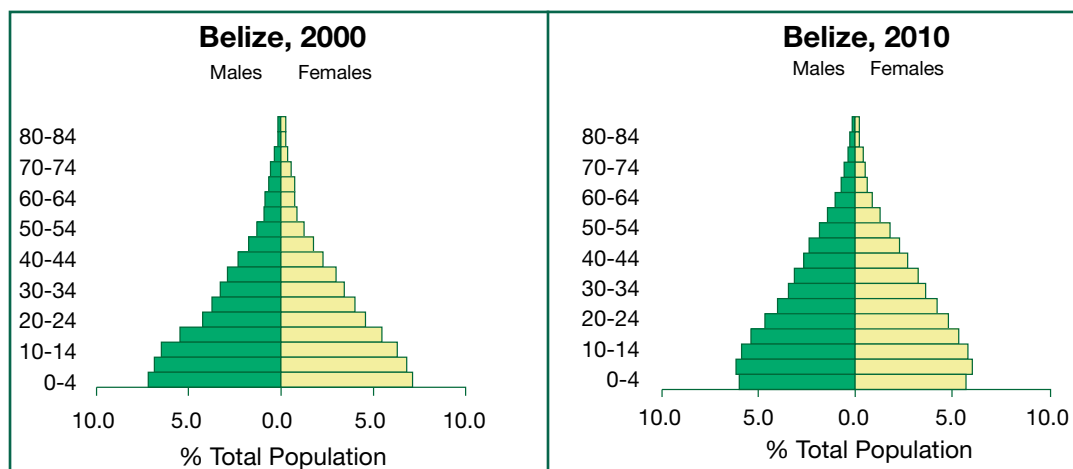


The male-female distribution remains practically unchanged as reported in the Mid Year Estimates for 2012 (50 % males, 50 % females). The urban-rural distribution shifted from 48.6% urban and 51.4% rural in 2000, to 45.1 % urban and 54.9 % rural in 2012. The Belize District continues to have the largest portion of the population (29.7%) (101,430), followed by the Cayo District with a population of 23.6% (82,677) while; Toledo District maintained the lowest proportion (9.5%), according to the post Census Estimates from 2012.

Belize has a young population. In 2012, 35.59 % of the population was under 15 years of age, while 53.67 % was 20 years of age or older. The elderly (60 years of age or older) accounted for 6.1 % of the total population. The life expectancy at birth is estimated at 72 years for males and 74 years for females. Women of childbearing age (15–49 years) accounted for 52.67 % of the total female population. The average total fertility rate for the period 2002–2006 was 3.3 children per woman of childbearing age. The Fertility rate; total (births per woman) in Belize was last reported at 2.79 in 2010, according to a World Bank report published in 2012. The Adolescent fertility rate (births per 1,000 women ages 15-19) in Belize was last reported at 73.96 in 2010, according to a World Bank report 2012. The inter-census growth rate for 1991–2000 was 2.7%, which represents



a 1% growth rate over the previous period (1980–1991). This rate, if sustained, would result in Belize doubling its population in approximately 20 years. The Population growth (annual %) in Belize was last reported at 3.39 in 2011, according to a World Bank report published in 2012.



The population of Belize is ethnically diverse and multicultural, made up of four main ethnic groups: Creole, Garifuna, Maya, and Mestizo. The 2010 census showed the majority to be Mestizo (49.7%) (150,921) followed by Creole (20.7%) (63,057), Maya (9.9%)(30,107) , Garinagu (4.6 %) (13,985), Mennonite (3.5%) (10,865), East Indian (3.0%) (6,486), Chinese (0.7%) (2,823) and other minorities, including, Africans, and Asians. The population of the Cayo, Corozal, and Orange Walk Districts is predominantly Mestizo, while the Belize District is heavily Creole; the Garinagu are most numerous in the Stann Creek District, and the Maya and East Indians are concentrated in the Toledo District. The Toledo District has the highest level of the population living in poverty (79%), followed by Orange Walk (34.9%), Stann Creek (34.8%), Cayo (27.4%), Corozal (26.1%), and Belize District (24.8%).

Christianity is the predominant religion in Belize; 49.6% of the population is Roman Catholic and 27% is Protestant, including 7.4% Pentecostal, 5.3% Anglican, 5.2% Seventh Day Adventist, 3.5% Methodist, and 1.5% Jehovah's Witnesses. There are smaller numbers of adherents to Islam, Hinduism, Judaism, and other religions, and 9.4% do not adhere to any religion.



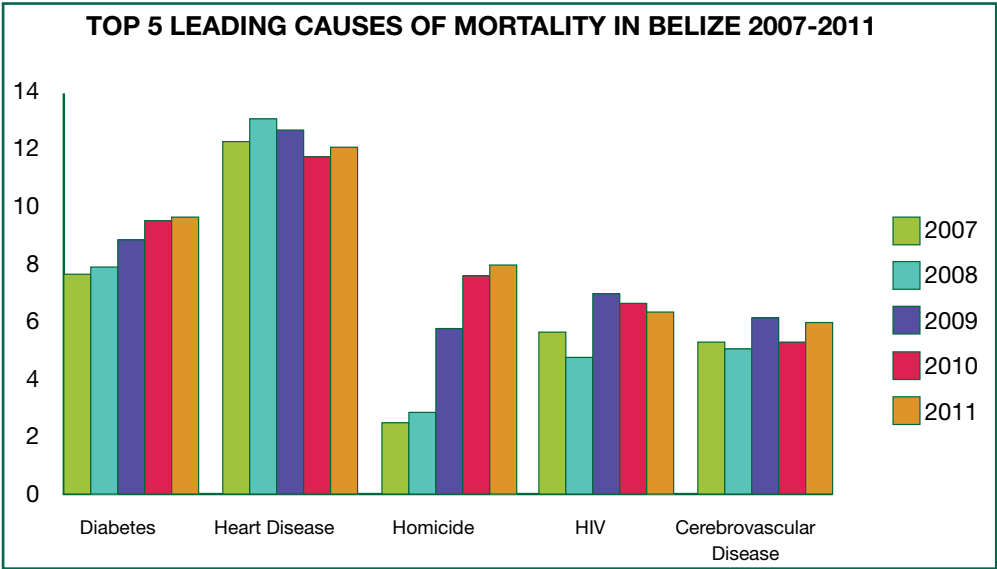
Many Belizeans take advantage of services and supplies in the neighboring countries of Guatemala and Mexico, and there are reports of trade in both licit and illicit goods, driven by increases in the cost of living. The SIB reported that the domestic price level, as measured by the average annual increase in the Consumer Price Index (CPI), was up by 2.3% during 2007, with food prices increasing by 5.3%. Price hikes in imported food staples and fuel raised the CPI to 4.7% over the 12 months to February 2008, an upward trend that is likely to continue. Even though the World Bank classifies Belize as an UPPER MIDDLE INCOME country, poverty rose from 33% in 2000 to 44% in 2010; a similar trend is noted with increase unemployment rates, from 12.5% in 2009 to 23.2% in 2010 according to SIB reports.

# Epidemiological Profile of Belize

## *Mortality and Morbidity in General Population*

One of the significant epidemiological trends in Belize is the increased prevalence of Non Communicable Diseases such as diabetes mellitus type 2, heart disease, cardiovascular disease and cancers. According to the Health Statistics of Belize volume 7, since 2007 the leading cause of mortality are heart disease and diabetes and its complications (see figure below). Furthermore, females have a higher mortality rate than males from diabetes; approximately 50% of females die of diabetes related causes compared to males, while the leading causes of mortality for males are

Figure 2.1  
Leading causes of Mortality in Belize 2007-2011  
(Epidemiology Unit MOH)

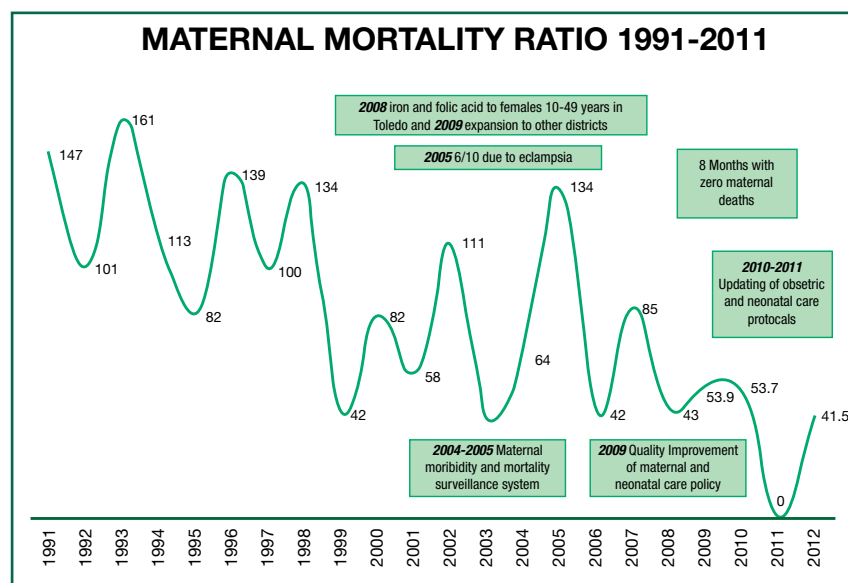


homicide, HIV and road traffic accidents. The increase in homicide, primarily in Belize City, has a great impact on the mortality trends for males in Belize, and statistics indicate that there is a gradual increase each year.

### Maternal Mortality

The maternal mortality ratio has decreased significantly from 2000 to 2012. In 2000 the ratio was 82 per thousand live births while in 2012 a decrease of 50% to 41.5 per thousand live births. In 2011 there were zero maternal deaths for Belize. This decrease is attributed to the introduction of the Quality Improvement of Maternal and Neonatal Policy introduced in 2009. The causes of maternal deaths are due to pregnancy induced hypertension, and post partum hemorrhage, among other non-obstetric causes.

Figure 2.2 Maternal Mortality Ratio 1991-2012 (Epidemiology Unit MOH)



### Mortality in Children

The trend in the cause of death among children at birth to age 14 differs with the respective age stratum. Children ages five to fourteen years are more at risk of dying from accidents, related to fire, drowning, and transport; this trend is consistent over the past five years. However, the causes of mortality among children less than one year continues to be as a result of hypoxia, birth

asphyxia, respiratory conditions, and other conditions originating in the perinatal period and congenital anomalies. The same is true for under five deaths (see table below). The under-five mortality rate was reduced from 21/1000 LB in the period 2003-2007 to 18.3/1000 in 2008-2012. The Southern Health Region has mortality rates higher than that of the country average [Stann Creek 19/1000LB and Toledo 38.2/1000 LB].

CAUSES	2007 %	2008 %	2009 %	2010 %	2011 %
Major Causes of Under 1 Mortalities					
Hypoxia ,birth asphyxia, and other respiratory conditions	27.3	21.2	21.1	18.8	33.8
Congenital Anomalies	16.5	12.9	18.0	26.0	24.8
Other conditions originating in the perinatal period	9.9	11.8	21.1	19.8	21.4
Major Causes of Mortality in 1-4 Years of Age					
Congenital Anomalies	13	5.7	8.6	0	10.5
Acute Respiratory Infections	8.7	8.6	8.6	7.7	0.0
Intestinal Diseases	4.3	11.4	5.7	7.7	21.1
Accidental Drowning and Submersion	8.7	2.9	5.7	11.5	21.1
Disease of the Nervous system Other than Meningitis	8.7	5.7	14.3	19.2	0.0
Nutritional Deficiencies and Anemia	8.7	11.4	8.6	3.8	5.3
Major Causes of Mortality in 5-9 Years					
	2007	2008	2009	2010	2011
Disease of the Nervous system Other than Meningitis	27.3	11.1	11.1	19.0	15.4
Transport Accidents	18.2	22.2	22.2	9.5	15.4
Accidental Drowning and Submersion	9.1	0	9.1	14.3	15.4
Accidents Causes by fire and flame	0	22.2	22.2	4.8	0
Major Causes of Mortality in 10-14 Years					
Accidental Drowning and Submersion	28.6	41.7	8.3	11.8	16.7
Transport Accidents	7.1	0	0	17.6	8.3
Disease of the Nervous system Other than Meningitis	14.3	8.3	8.3	5.9	8.3
Homicide and Injury purposely inflicted by other persons	0	0	16.7	5.9	8.3

Table 2.1 Causes of Mortality among Children 2007-2011 (Health Statistics of Belize, 2011)

### *Mortality among Adolescent and Young Adults*

In adolescents aged 15-19 years the major causes of death are related to road traffic accidents, homicide and injury purposely inflicted by other persons and injury undetermined whether accidentally or purposely inflicted, while young adults ages 20-29 years major causes of death

parallel that of adolescents, but advanced HIV is also one of the major causes of death among young adults.

CAUSES	2007		2008		2009		2010		2011	
	15-19	20-29	15-19	20-29	15-19	20-29	15-19	20-29	15-19	20-29
Traffic Accidents	22.2	13.7	14.3	16.1	19.4	6.7	9.8	9.2	9.8	13.7
Homicide and Injury purposely inflicted by other persons	2.8	12.6	7.1	10.2	22.2	29.8	46.3	28.6	39	30.5
Injury undetermined whether accidentally or purposely inflicted	30.6	26.3	33.3	29.7	5.6	2.9	2.4	1.7	0	0.8
HIV/AIDS	0	12.6	0	13.6	2.8	21.2	0	16.8	0	11.4

Table 2.2 Percentage of Causes of Mortality in Adolescents (15-19) and young Adults (20-29) 2007-2011  
(Health Statistics of Belize, 2011)

### *Mortality among Adults and Elderly*

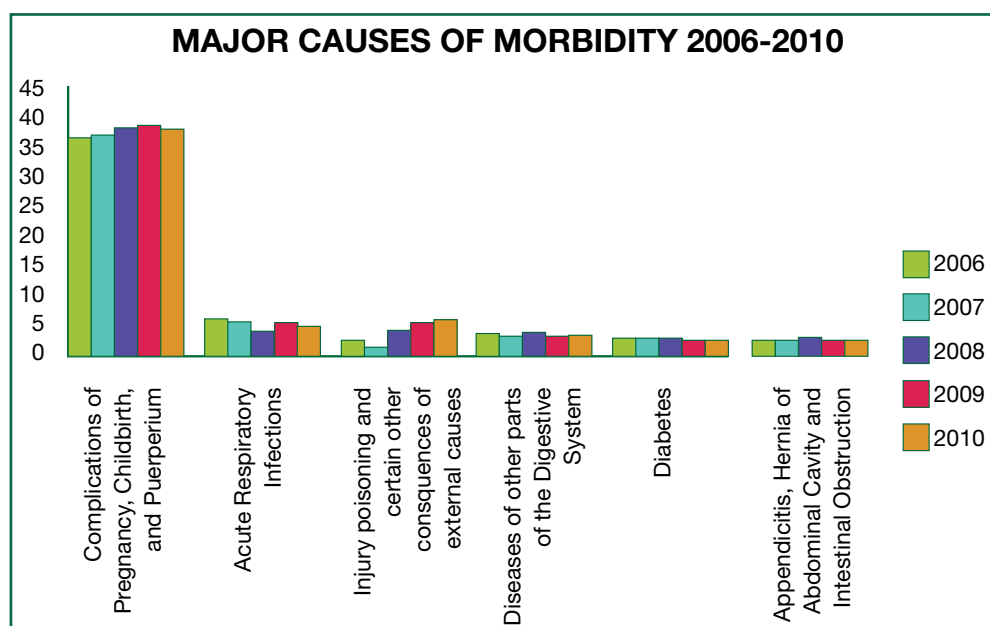
The leading cause of death among ages 30-39 years is due to advanced HIV infection, Homicide and injury purposely inflicted by other persons and road traffic accidents. While; in this same age group 2.48% of deaths are related to malignant neoplasm of the cervix, uterus, body and other unspecified which occurs only in females. Furthermore; the same is common for deaths among ages 40-49 years, however diabetes and heart disease are also major causes of death among this cohort.

Furthermore, the leading cause of death among ages 50-59 years is related to diabetes and its complications, followed by ischemic heart diseases, hypertension, advanced HIV infection and chronic liver disease and cirrhosis. The same is true for the elderly 60+, except for advanced HIV infection and chronic liver disease and cirrhosis, which are not among the causes of death for the elderly.

### *Morbidity in the General Population*

In relation to morbidity, the top three causes are responsible for almost half of all hospitalizations on a national level: Complications of Pregnancy, Childbirth and Puerperium (ranked 1st); Injury, Poisoning and Certain Other Consequences of External Causes (ranked 2nd); and Acute Respiratory Infections (ranked 3rd). It must be noted that included in the number one cause of MORBIDITY are normal deliveries, 94% of mothers deliver within a health facility and these are reported as persons being hospitalized. This is within the context of promoting a safe delivery and contributing to a safe motherhood and ensuring healthy newborns. Information received indicates that when actual complications are looked at, the total contribution to morbidity is only 9.2%. Together these pathologies represent 50% of all hospital services demand. Of particular concern is the category “Injury, Poisoning and Certain Other Consequences of External Causes” which corresponds to more endemic problems in the underlying social structure.

Figure 2.3  
Major Causes of  
Morbidity 2006-2010  
(Epidemiology Unit  
MOH)



### *Morbidity among Children*

The morbidity among infants under one year of age is primarily due to conditions originating in the perinatal period and acute respiratory infections, followed by hypoxia and birth asphyxia.

Note that prematurity is included among conditions in the perinatal period, on average 21.7% of hospitalization among the under one occurs in the perinatal period, thus improvement and strengthening of the prenatal component is required. While for children between ages one to four years, acute respiratory infections, Bronchitis, Chronic and Unspecified, Emphysema and Asthma, and Intestinal Infectious Diseases are major causes of hospitalization.

Acute Respiratory infections also affects children between 5-9 years of age, along with Injury , Poisoning and Certain other consequences of External Causes, Appendicitis, Hernia of Abdominal Cavity and Intestinal Obstruction and Bronchitis, Chronic and Unspecified, Emphysema and Asthma. It is important to note that ARIs accounts for approximately, 20.7% of hospitalizations among children. The need for continued health education on hand hygiene and cough etiquette is very important to decrease the incidence of ARIs among children.

The causes of morbidity among 10-14 year old children is primary due to Injury, Poisoning and Certain other consequences of External Causes, Appendicitis, Hernia of Abdominal Cavity and Intestinal Obstruction and Complications of Pregnancy, Childbirth and Puerperium, this indicates that teen pregnancy is occurring at an early age, and the health system must put structures in place to address the sexual and reproductive health needs/demands of pre-teens, and young adolescents.

Strengthening and improvement in the vaccination coverage has significantly reduced the risk of vaccine preventable diseases, and overall mortality due to transmissible diseases has decreased. There have been no reported cases of measles or poliomyelitis since 1981 in Belize. The last cases of neonatal tetanus, non-neonatal tetanus, and congenital rubella syndrome were reported in 1997. No confirmed cases of diphtheria have been documented since 1982. The risk of these diseases has been reduced through a steady increase in vaccination coverage with BCG, DPT, OPV, and MMR antigens between 2000 and 2011. In 2011, national coverage rates for each of these vaccines were 95.0% or greater.

More than a third (36.4 %) of children 2 to 9 years was at risk for one or more disabilities as reported by the mother or primary caretaker. The Stann Creek District ranked highest at risk (59.3 %) and the Belize City South Side the lowest (23.0 %). Rural children were at higher risk for disabilities than urban children (urban 28.3 %, rural 41.5 %)(MICS,2011).

CAUSES	2007 %	2008 %	2009 %	2010 %
Major Causes of Morbidity Under 1				
Other Conditions Originating in the Perinatal Period	19.2	20.3	22.7	22.9
Acute Respiratory Infections	24.6	18.9	22.3	18.5
Hypoxia, Birth Asphyxia and Other Respiratory Conditions	12.7	8.7	10.3	9.2
Major Causes of Morbidity 1-4 years				
Acute Respiratory Infections	29.8	26.7	31.7	28.6
Bronchitis, chronic and Unspecified, Emphysema and Asthma	13.7	10.2	8.2	7.8
Intestinal Infectious Diseases	9.3	12.4	8.2	14.5
Major Causes of Morbidity 5-9 years				
Injury , Poisoning and Certain other consequences of External Causes	5.1	13.1	19.3	18.8
Acute Respiratory Infections	12.9	8.8	10.7	15.2
Appendicitis, Hernia of Abdominal Cavity and Intestinal Obstruction	9.2	10.8	11.0	11.7
Bronchitis, chronic and Unspecified, Emphysema and Asthma	9.3	7.3	10.3	6.7
Major Causes of Morbidity 10-14 years				
Appendicitis, Hernia of Abdominal Cavity and Intestinal Obstruction	8.4	11	12.2	12.4
Complications of Pregnancy, Childbirth and Puerperium	9.7	8.2	6.3	7.1
Injury , Poisoning and Certain other consequences of External Causes	6	12.5	17.1	16.3

Table 2.3 Causes of Morbidity among Children 2007-2011 (Health Statistics of Belize, 2011)

### *Morbidity among Adolescent and Young Adults*

The leading Causes of hospitalization among adolescent and young adults between ages 15-19 years and 20 to 29 years is related to pregnancy, childbirth and the puerperium which accounts for approximately 70% of hospitalizations in Belize. This is not alarming since there is a national policy that encourages the first and fifth child must be born within a health care facility. The other causes of hospitalization are due to diseases of the urinary system, appendicitis, hernia of abdominal cavity, and intestinal obstruction.

### *Morbidity among Adults*

The same is true for persons between ages 30 and 39 years with the leading cause of hospitalization is due to pregnancy, childbirth and the puerperium, which is about 52% of the total hospitalization. This is followed by injury, poisoning and certain other consequences of external causes mostly common among males. While in age group 40 to 49 years of age only 15% of hospitalizations are due to pregnancy, childbirth and the puerperium, and 10% due to diseases of the digestive system, diabetes 8%, and benign neoplasms, carcinoma in situ and neoplasm of uncertain behavior and of unspecified nature is about 5% of the hospitalizations. In persons 50 to 59 years the leading cause of hospitalization is due to diabetes mellitus at 15%, while diseases of the digestive system and of the urinary system both account for 8% respectively, and hypertensive diseases for about 5%.

### *Morbidity among the Elderly*

The major causes of morbidity among persons 60 years and older is due to diabetes mellitus 12%, diseases of the pulmonary circulation and other forms of heart diseases 10%, hypertensive diseases 8%, cerebrovascular diseases 5% and acute respiratory infections 8%.

## **Major Communicable Diseases**

### *Vector Borne Diseases*

The incidence of dengue has grown dramatically around the world in recent decades. Over 2.5 billion people or over 40% of the world's population are now at risk from dengue. The WHO currently estimates 50–100 million dengue infections worldwide every year. Before 1970, only nine countries had experienced severe dengue epidemics. The disease is now endemic in more than 100 countries in Africa, the Americas, the Eastern Mediterranean, South-east Asia and the Western Pacific. The Americas, South-east Asia and the Western Pacific regions are the most seriously affected. Cases across the Americas, South-east Asia and Western Pacific have exceeded 1.2 million cases in 2008 and over 2.3 million in 2010 (based on official data submitted by Member States). Recently





the number of reported cases has continued to increase. In 2010, 1.6 million cases of dengue were reported in the Americas alone, of which 49 000 cases were severe dengue. (WHO Dengue and Sever Dengue Fact Sheet No 117 September 2013). Dengue continues to be of concern, with all four serotypes confirmed present in Belize. The prevalence in urban communities is three fold those of the rural communities. It's incidence is greatest in the Belize District and Cayo Districts; however, dengue occurs in all four health regions in Belize. In 2009 there were 1,370 confirmed cases of dengue and in 2012 the number has doubled to 2,041 confirmed cases.

In relation to vector borne diseases, the integrated community framework has functioned to decrease the prevalence of malaria in Belize. According to WHO/PAHO standards Belize is in the pre-elimination phase for malaria control. Malaria has decreased approximately 95% from 2007 to 2012; 845 to 37 cases respectively. Similar trend in reduction is noted in Latin America and the Caribbean except for Haiti and Dominican Republic and Venezuela which had increases over the past ten year period.

About 7 million to 8 million people worldwide are estimated to be infected with Trypanosoma cruzi (the parasite that causes Chagas disease), mostly in Latin America. Chagas disease was once entirely confined to the Region of the Americas – principally Latin America; but it has now spread to other continents. Up to 30% of chronically infected people develop cardiac alterations and up to 10% develop digestive, neurological or mixed alterations, for which specific treatment may become necessary, according to the WHO (WHO Chagas Disease Fact sheet No. 340 March 2013). Vector control is the most useful method to prevent Chagas disease in Latin America. Blood donor screening is vital to prevent infection through transfusion and organ transplantation. In Belize there are no confirmed cases of Chagas, and continuous screening for blood donors enhanced the surveillance for Chagas.

### *HIV/STI and TB*

HIV and advanced HIV infection remain a concern for the Government of Belize and the Ministry of Health. The prevalence of HIV/AIDS has decreased significantly and the latest Spectrum estimate at the end of 2012, reports a



rate of 1.4% (40% drop). According to the 2011 Behavior Sero-prevalance Survey HIV is now considered a disease that is concentrated in the group of men who have sex with men (MSM) with a prevalence rate of 13.85%. HIV continues to affect more men than women with a ratio of 3:1; the prevalence is much higher in the Belize District followed by the Stann Creek and the Cayo Districts.

Sexually transmitted infections do not appear as leading causes of morbidity. However, the incidence needs to be known because the prevalence of these STIs serves as markers for HIV infection. Pelvic Inflammatory Diseases also do not appear in the general leading causes of morbidity but this syndrome can include specific STIs as underlying causes of such disease.

The yearly incidence of tuberculosis has remained stable over the past ten years. This is a reason for concern as to the efficacy of the Directly Observed Treatment Scheme or an associated program weakness.

## Major Non Communicable Diseases

Belize continues to undergo an epidemiological transition in which NCDs have become increasingly prominent in the disease profile and have been increasing in their share of the disease burden for well over a decade. Cardiovascular diseases, cancers, diabetes and chronic respiratory diseases are responsible for around 40% of deaths annually, 681 out of the total of 1,555(44%) of deaths in 2011. This compared with 28% for injuries and external causes, and 20%

for communicable diseases including HIV and acute respiratory tract infections and other causes combined in that same year.

Also 320 (47%) of the deaths due to NCDs (21% of the 1,555 total deaths in 2011) were premature deaths in persons less than 70 years of age of which (169) 24.8% were males less than 70 and 151 were females less than 70 years. Almost 43% of the premature deaths were attributable to cardiovascular diseases; 29% to cancer, 24% to diabetes and 4% to chronic respiratory diseases. Furthermore, 218 (31.3%) of the total 681 NCD deaths were in persons less than 60years of age of which 109



(16.0%) were males less than 60 and 104 (15.3%) were females less than 60 years of age. (Draft Belize NCD profile-epidemiology and country capacity to prevent and control NCDs, 2013).

The incidence of all cancers in 2012 was 59 per 100,000 population. Breast and cervical cancer were 29.9 and 21.4 per 100,000 respectively; while prostate cancer incidence was 15.3 per 100,000. However, Breast cancer, prostate, colon cancer and childhood cancers do not appear as leading causes of mortality. This calls for the consideration of the screening capacity in Belize for these two specific diseases. The introduction of the National Health Insurance Initiative screening of prostate cancer is now included in the health package.

## **Determinants of Health**

The social determinants of health are those factors that impact upon health and wellbeing. These are the circumstances into which people are born, grow up, live, work, grow old, and die. These social determinants are not merely the root causes of poor health and wellbeing but also contribute to inequities that impact on health. The social determinants of health include relevant education, poverty, access to clean water, improved housing with adequate spacing and other indirect causes such as behavioral lifestyle choices and other environmental factors.

## **Social Determinants**

### *Education*

Education is a strong facilitator of wellness; therefore, the importance of promoting and maintaining an optimal level of literacy cannot be overemphasized. There are obvious challenges to wellness where literacy is deficient at the individual, family and community levels. It is imperative that relevant education is an asset to development. In Belize, 25% of the national budget is invested in the education sector. According to the 2010 Census, the net enrolment at the primary education level has significantly increased reaching 95 per cent in 2011. There are almost 100 thousand students enrolled in schools at all levels, about 5,000 teachers and 541 schools (Belize Education Sector Strategy 2011-2016).

There is a policy promoting preschool attendance and the government is giving technical support for early childhood education. Currently, most preschools are privately run with fewer preschools in rural areas. This has resulted in 31.7 % of children aged 3 years to 5 years

attending pre-school. It is legally mandated that children 5 to 14 years attend school, and MICS 2011 statistics indicate that the majority of children of primary school age are attending school (94.4 %). In urban areas 98.0 % of children attend primary school while in rural areas attendance was less at 92.2 %.

Only half of the children of secondary school age are attending secondary school (55.4 %). Many students at both primary and secondary levels also do not complete schooling within the required timeframe (Belize Country Poverty Assessment, 2010). The Gale Report (2010) also demonstrates that Belize has a significant school exclusion rate with 16.3% of children at the primary level and 59.3% at the secondary level. Interestingly, adolescent males at the secondary level are especially affected with 62.6%, and females at 55.9% left out of a secondary level education.

EDUCATION LEVEL	GENDER	POPULATION	NET ENROLLMENT	EXCLUDED	% AGE EXCLUDED
PRIMARY	M	35,587	29,423	6,164	17.3
	F	34,011	28,801	5,210	15.3
	Total	69,598	58,224	11,374	16.3
SECONDARY LEVEL	M	16,895	6,314	10,581	62.6
	F	16,322	7,193	9,129	55.9
	Total	33,217	13,507	19,710	59.3
ALL STUDENTS	102, 815	71,731	31,084	30.2	

Table 2.4 Net Enrolment for All Levels of Education ( MICS 2011)

### *School Exclusion at the Primary and Secondary Levels*

According to available data (2005), the adult literacy rate was 94.7%. The MICS (2011) reports that 91.1 % of women in Belize are literate and this literacy status varied considerably by place of residence. The most literate women are found in Belize District (98.5 %) and the least literate in the Orange Walk District (82.0 %) (MICS, 2011).

### *Economics*

The major economic sectors are agriculture (citrus, sugar, bananas), fisheries, petroleum and tourism, as well as the financial and trade infrastructure. Belize has mainly a service economy

with 55% of GDP coming from this sector; the primary sector now accounts for around 11% of GDP compared to 14% in 2001, while secondary activities have increased their share from 17% to 20% due to the exploitation of oil resources.

### *Poverty*

Poverty is most often defined on the basis of severe poverty (indigence) based on minimum food requirements, and non-food expenditure. According to the 2009 Country Poverty Survey, poverty in Belize increased substantially between 2002 and 2009. In 2002, 8% of the population was indigent poor and 17% was poor with 67% of the population being non-poor. In 2009, 10% were indigent poor and 21% poor, with 59% of the population being non-poor. Poverty and indigence have increased in all districts except Toledo where there has been a decrease, although it still remains the poorest district in the country. The sharpest increase in poverty has been in Corozal, which now has a similar level of overall poverty to Toledo (CPS, 2009).

The root causes of poverty were primarily economic relating mainly to lack of employment, low wages and high prices. Other causes identified by the Country Poverty Survey (2009) included family breakdown, pressures on the career parent to generate income as well as provide child care, domestic violence, unplanned pregnancies, school non-attendance and dropping out, drug and alcohol use, all contributing to inter-generational poverty. In an effort to mitigate the effects of poverty, social welfare programs have been introduced such as the Building Opportunities for Our Social Transformation (BOOST), which is a small cash assistance of between BZ\$44 and BZ\$82 per person, up to a maximum of six per poor household. Another program is the Non-Contributory Pension (NCP) for women aged 65 years and above and men 67 years and above of \$100.00 monthly. For the poverty situation to improve there needs to be an improvement in employment rate, and an increase in wages in pace with inflation rates. Furthermore, the consumer protection policy must be in place to improve the poverty rates.



### *Labor Force*

Improved health increases the productivity of the labor force, and labor force participation has a significant positive impact on financial security, personal development and protection from physical and psychological hazards necessary for good health. On the other hand, unemployment is associated with a variety of negative health effects including poor nutrition, less formal education and poor health care. Addressing unemployment and underemployment contributes to reducing gender, ethnic and other social inequities.

The April 2013 Labor Force Survey demonstrates that the national unemployment rate was 12.1% in that month as compared with 14.4% in April 2012. This is a reduction in the number of persons without a job from around 21,370 to 17,920 persons. At the district level, the unemployment rate varied from 8.0% in Toledo to 15.5% in Stann Creek. Belize and Stann Creek Districts were among the three districts with the highest rates of joblessness. Women continued to be more affected by unemployment than males (SIB, 2013).

### *Gender Issues*

The Revised National Gender Policy 2013 is the national framework document that seeks to ensure that the identified gender equity gaps are addressed through a structured process that engages stakeholders at all levels.

Males and females have equal access to formal education at the various levels; however, there is a higher rate of male repetition and dropout at the secondary level. More women than men attend the University of Belize, but the female population is older than the male population, suggesting that women are returning to school to improve their situation.

Gender-based violence includes child abuse, domestic violence, commercial sexual exploitation of children and adolescents, commercial sex work, human trafficking, rape and sexual assault. It also includes male violence on the streets.

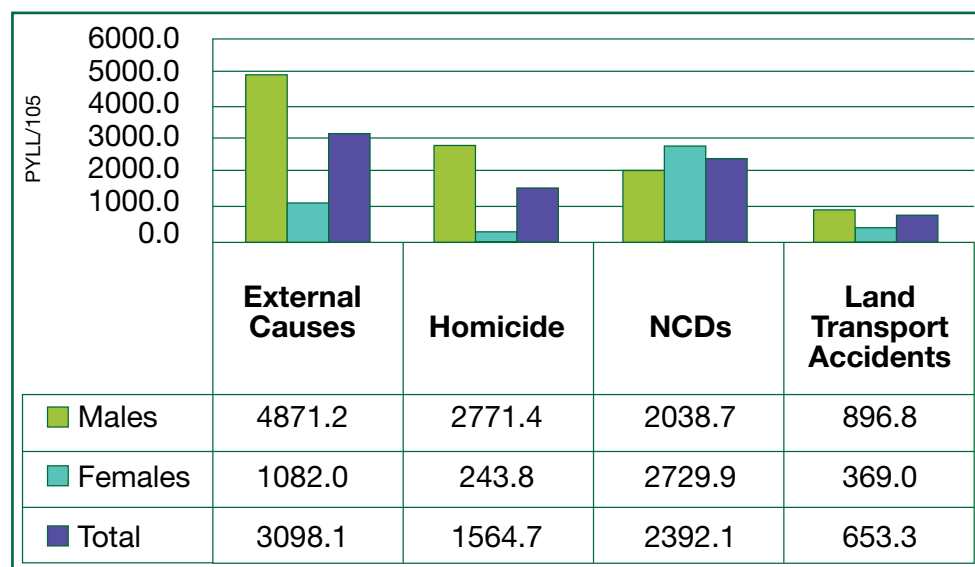
Domestic violence continues to be reported especially by women. Between May and November 2003, staff of the Women's Dept tracked the issue of domestic violence and noted at least 10 women having been killed allegedly by boyfriends, partners or ex-partners. Many more are victims of beatings, maiming and other forms of abuse.

Health care provided to men has mostly been associated with and in relation to issues of violence. Belize's homicide rate is among the highest in the region. In 2012, the country's homicide rate per 100,000 population earned a 6th place ranking on the list of the most violent countries



prepared by the UN Office on Drugs and Crime In 2011, 28% of deaths were a result of injuries and external causes. Males lost more potential years of life as a result of external causes, homicide and land transport accidents. Most of the perpetrators and victims of homicide are young males based in urban locations. The high homicide rate imposes huge costs on the tertiary health care system as most of the victims interface with the Karl Huesner Memorial Hospital, the country's only tertiary care facility.

Figure 2.4  
Potential Years  
of Life Lost / 105  
Due to selected  
conditions - 2011



Much awareness has also been drawn to male sexual and reproductive health through the auspices of the National HIV Program and its community partnerships. HIV infections affect both sexes and age groups especially persons 20 to 34 years. The 2011 Statistical Report from the Ministry of Health demonstrates a transition from more females infected to more males, despite the issue that fewer males are being tested for HIV.

In the sociological sphere, two-thirds of biological fathers are missing and 83 % of adolescents are either aggressive or moderately aggressive in urban Belize (Gale, 2010). The presence of a father in the home is especially critical for boys and such a gap should be recognized as a contributor to crime and violence affecting mainly males.

## Environmental Determinants

### *Water and Sanitation*

Safe drinking water and basic sanitation are essential to the protection of human health. Water quality is a strong environmental determinant of health as safe drinking water is a basis for the prevention and control of waterborne diseases. The World Health Organization defines an improved drinking-water source as one that, by nature of its construction or through active intervention, is protected from outside contamination, in particular from contamination with fecal matter.

Most of the population of Belize (97.7 %) uses an improved source of drinking water. Both the urban (99.5 %) and rural (96.2 %) areas display high access to improved sources of drinking water. The main improved source of drinking water in Belize is bottled water (47.8 %) followed by water piped into dwelling (17.9 %), with 29.4 % use of water from a public water source piped into dwelling (SIB, 2010). Other main sources of household water supply are protected dug well (4.1%); private catchments, not piped (2.8%); river, creek, stream or pond (2.1) and a neighborhood source (2.0%) (SIB, 2010).

In terms of sanitation, 64.6% of the population uses flush toilet while 3% of households countrywide have no toilet facilities. Most households in the Toledo District use pit latrines (SIB, 2010). One in ten households (9.7 %) in the Toledo District has no sanitary facility, instead using outdoor areas such as a field to dispose of excreta (MICS, 2011).

### *Energy*

The 2003 Belize diagnostic assessment of the energy sector found the main sources of energy was derived from imported fuels, imported electricity, traditional biomass and renewable energy technologies. At this time, no local refining of crude oil is taking place in Belize.

The MICS (2011) found that 17.7% of households use solid fuels for cooking. Solid fuel use was highest in Toledo District (56.5%) and lowest in Belize City South Side (0.5%). Butane is used by 92.9% of urban households.

### *Pesticides and Fertilizers*

The agriculture sector is the second largest importer and user of chemicals (pesticides and fertilizers) in Belize, the first being the transport sector. The related production and processing



activities are the largest generators of industrial effluent and solid waste (Belize National Environmental Summary, 2011).

In 2002-2007, the sugar industry alone produced 5,074,261 to 5,950, 123 gallons of liquid waste per year. The increased levels of BOD and nutrients are of grave concern. Wash waters and irrigation run-offs contaminate the watershed in the two southernmost districts – Stann Creek and Toledo. The banana and citrus industries use the highest estimated amounts of fertilizer per acre. The use of pesticides is also of high concern in the banana industry where runoff and chemical pollution affect adjacent water bodies.

### *Climate Change*

The United Nations Framework Convention on Climate Change (UNFCCC) has identified that Belize is among those countries most vulnerable to the negative effects of climate change due to its long, low-lying coastline, it's over 1060 small islands, its extensive barrier reef and its wide forest cover. Belize is ranked 8th from 167 countries for climate risks (World Bank).

Since a half of Belize's population lives in coastal areas, the vulnerability to natural disasters is extremely high. While hurricanes have affected Belize periodically, a major threat continues to be flooding due to heavy rainfall, which increases the risk for infectious diseases, thus impacting negatively on social life and affecting the country's productive sector.

## **Behavioral Determinants**

### *Diet*

Despite an abundance of cultivable land there is a high dependence on the importation of food. Belizean people face several nutritional problems including high intake of fatty, sugary and salty foods, unbalanced diets, low fruit and vegetable consumption, and overall poor food choices. Overweight and obesity, high morbidity and mortality rates due to non communicable diseases, poor food safety practices and lack of reduced physical activity continue to plague the society.



The results of the 2009 Central American Diabetes Initiative (CAMDI) survey of Diabetes, Hypertension and Chronic Disease Risk Factors found that diabetes, hypertension and their risk factors are serious public health concerns in Belize. The overall prevalence of diabetes mellitus was found to be 13.1% while the overall prevalence of hypertension was 28.7%. Major risk factors such as obesity, overweight and high cholesterol showed a prevalence of 32.5%, 33.2% and 5.1% respectively. A high body mass index, triglyceride level, age, and a large waist circumference were the most consistent predictors of disease.

The Belize National Survey on Micronutrients Biomarkers Study 2011-2012 found that the regional prevalence of Anemia among non-pregnant women of childbearing age was highest (30%) in the Belize District. The southern region (Toledo and Stann Creek districts) had a prevalence of 23%, the northern region (Corozal and Orange Walk) had a prevalence of 20%, and the western region had a prevalence of 14%. Prevalence of Anemia in non-pregnant women of childbearing age was highest in Creole women (33.9%) followed by Garifuna women (31.2%), East Indian women (27.4%), Maya (22.4%), Mestizo (18.4%) and lowest in Mennonite women (7.5%).

A 2011 Global School-based Student Health Survey (GSSHS) conducted on students 13-15 years found that 36.2% of the students were overweight and 13.1 obese. 47.7% consumed fruit two or more times per day and 25 % usually ate vegetables during the past 30 days prior to the interview.

In 2012, The Ministry of Health, in collaboration with the Ministries of Agriculture and Education and supported by the Food and Agriculture Organization (FAO), and other international partners launched the Belize Food Based Dietary Guidelines (FBDGs). The Guidelines are graphically represented by a culturally based food basket and demonstrates the distribution of food groups that should be included in daily diets.

### *Smoking*

A 2008 Global Youth Tobacco Survey (GYTS) conducted among school children ages 13-15 in Belize found that almost one in five students used a form of tobacco, 8% smoked cigarettes and one in ten were exposed to second-hand smoking. Furthermore, a quarter of students lived in homes where someone smoked, and half were exposed to smoke from peers outside of the home. A third of the students had at least one parent who smoked.

In regard to the general population, the 2009 Central American Diabetes Initiative (CAMDI) survey of Diabetes, Hypertension and Chronic Disease Risk Factors also found that (81.2%) of the population do not smoke. Of the smokers, the majority was in the 20-39 age group (50.6%), and former smokers tended to be 20-39 (41.8%) or 40-64 years old (38.3%). The prevalence of current tobacco use was 10.2% - 17.7% among men, and 1.4% among women. Women who smoked reported smoking more cigarettes in the last 30 days than did men (11.3 cigarettes/day vs. 8.8 cigarettes/day). It appears that men and women began smoking as early as age 13 (19.1 +/- 6.3 years).

In an effort to strengthen tobacco control in Belize, the Ministry of Health along with its coordinating partners has developed a National Tobacco Control Plan, which has specific goals relating to tobacco control for the period 2007-2012.

### *Alcohol Consumption*

Excessive alcohol use has immediate effects that increase the risk of many harmful health conditions such as injuries, traffic accidents, violence, risky sexual behaviors, and complications of pregnancy. Over time, excessive alcohol use can lead to the development of chronic diseases, neurological impairments and social problems.

The CAMDI survey (2009) also found that one third of respondents (31.7%) consumed alcohol; however, alcohol consumption was less common with increased age in both sexes. Men generally ingested alcohol more often than women (2.6 days/week vs. 1.6 days/week) and ingested larger quantities (8.5 drinks vs. 3.6 drinks).

### *Physical Activity*

There is evidence to suggest that exercise and regular physical activity have immense benefits for health. Conversely, a sedentary lifestyle does the opposite, increasing the chances of becoming overweight and developing a number of chronic diseases. Despite all the benefits, 77.7 % respondents reported having less than 60 minutes of physical activity per week. Among those who reported 150 minutes of physical activity or more per week, the majority were in the 20-39 year age group (73.1%). (CAMDI, 2009)

### *Sexual Behaviour and HIV Transmission*

Sexually risky behavior can result in unintended health outcomes as they place persons at risk for HIV infection, other sexually transmitted diseases (STDs), and unintended pregnancy. Risky sexual behaviors include having more than one sexual partner; changing sexual partners frequently; having oral, vaginal or anal sexual contact without a condom and using unreliable methods of birth control, or using birth control inconsistently. The main factor in HIV transmission in Belize appears to be inconsistent condom use in the presence of multiple partners, early sexual initiation and gender-based violence. Across populations, the element of multiple partners is obvious with varying levels of inconsistent use of condoms with any partner. At the root of unprotected sexual activity are the complex psychological issues that act as determinants supporting the gap between knowledge and behavior that prevents the sexual transmission of HIV.

The 2010 MICS reports that 68.7 % of women 15 to 24 years had never had sex while 5.3 % had sex before age 15. 15.9 % had sex with a man 10 years or older in the last 12 months, whilst 2.1 % of women 15-49 years of age had with more than one partner. Of those women, only 28.6 % report using a condom the last time they had sex (this was sex in the last 12 months).

The GSSHHS (2011) survey conducted on students 13-15 years reported that 24.8% of students had had sexual intercourse. Of these 68.9% had used a condom the last time they had sex. 13.3% had had sexual intercourse with two or more persons.

In Belize as in Central America, the HIV epidemic is primarily concentrated in the population of men who have sex with men (MSM). A Behavioral Surveillance Survey conducted in 2012 in Belize on the Prevalence of HIV/STIs and Risk Behavior in MSMs revealed a higher prevalence of HIV among this group. Consistent condom use with occasional clients, and commercial sex workers (male and female) in last 12 months was reported 64.4%, 75.0% and 50.0%, respectively. HIV prevalence among MSM was 13.8%.

A new National Strategic Plan 2012-2016 was developed using with maximum stakeholder participation. A Continuum of Care (CoC) strategy has been developed as guidelines for ensuring and monitoring care, treatment and support for people with HIV (PHIV) countrywide.

Information on the HIV-vulnerable groups has also influenced HIV program planning targeting these populations.

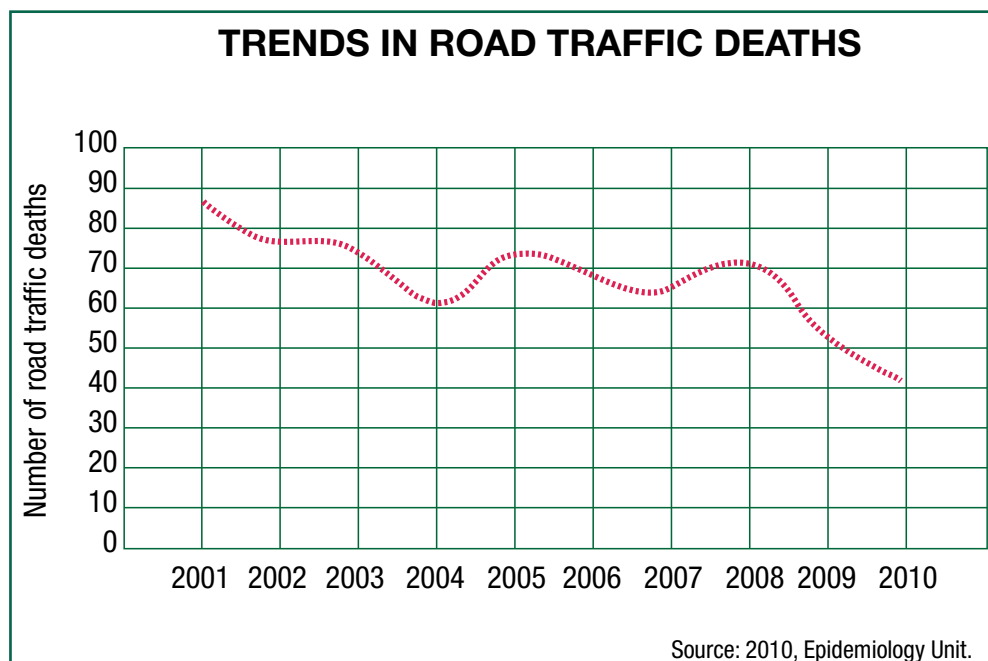
### *Behavior Related to Road Accidents*

2011 – 2020 has been declared by the United Nations General Assembly as the Decade of Action for Road Safety. The World Health Organization (WHO) reports that road traffic injuries remain a major public health problem and the eight leading cause of death globally. Each year, nearly 1.3 million people die and between 20 million and 50 million more are injured as a result of road collisions. Road traffic injuries are among the three leading causes of death for people between 5 and 44 years of age.

In 2010 in Belize, injury from accidents was among the second leading causes of hospitalization (along with poisoning and certain other consequences of external causes). Transport accidents were the tenth leading cause of death in 2011.

The Global Status Report on Road Safety 2013, through information from the Ministry of Health reports that road traffic deaths have been on a general decline in Belize for the decade 2001-2010 with 90 such deaths in 2001, roughly 75 in 2002, roughly 50 in 2009 and 41 reported in 2010. Of note is that Belize was given a score of 2 on a scale of 1 to 10 for the enforcement of national speed limits, a score of 4 for the enforcement of drink-driving law and a score of 7 on the same scale for the enforcement of seat belt laws.

Figure 2.5  
Trends in Road  
Traffic Deaths  
2001-2010  
(Epidemiology  
Unit MOH)



The Government of Belize has received loan financing from the Caribbean Development Bank (CDB) towards the cost of the Belize Road Safety Project. This project is the first phase of what is expected to be a long-term initiative of the Government to improve road safety in Belize and aims to reduce the incidence of death and serious injuries associated with road traffic accidents.



### *Immigration*

Immigration continues to impact Belize's life both positively and negatively. Belize receives immigrants from all over the world as tourists and as residents. Central Americans, Asians, Africans among others continue to come to Belize to live. Central Americans seek employment and land opportunities, Asian seek business opportunities and Africans seek employment, study and other livelihoods.

The 2010 Census reports that Guatemala (19K) remained the single largest source of foreign-born persons. El Salvador and Honduras contributed to about seven thousand persons each. About 42% of the foreign-born persons (FBP) were between 25 and 44 years of age. 60 % had at primary education at most. As in 2000, FBP enjoyed a lower unemployment rate (17.7%) than the national average (males -11.0% and females -29.0%) (CSO, 2010).

## **Health Sector Performance Review**

The Belize health care system has suffered some significant changes in the past ten years or so. The stated vision which gives direction to the changes being implemented is as follows:

"We envision a national health care system which is based upon:

1. equity
2. affordability
3. accessibility
4. quality
5. sustainability

In effective partnership with all levels (sectors) of government and the rest of society in order to develop and maintain an environment conducive to health."



**A) Health Services:** As part of the Health Sector Reform initiative, the MOH reorganized its services into four Health Regions (Northern Region, Central Region, Western Region and Southern Region), headed by Regional Health Managers. Together with its management team and Deputy Regional managers, they are responsible for ensuring the provision of individual and population based services to distinct geographic and population groups. Regional Hospitals serve to maximize the limited resources of the country in order to become more effective and affordable. Introduction of the National Health Insurance scheme, initially as a pilot in the South Side of Belize district (2002) and later extended to the Southern Region (2006), focused on Primary Care services delivered through a network of Primary Care Providers that focused on the health of a defined geographic and population base. Protocols and service delivery standards were introduced to define quality services, and monitoring and evaluation mechanisms as well as pay-for-performance schemes were also introduced to ensure quality performance. Regular facility audits, protocol audits, and patient satisfaction surveys are used as tools to maintain incentives for quality delivery of services. In 2008/2009, a new PCP was introduced in the Belize South Side catchment area, to address the needs of the elderly population (Mercy Clinic PCP). Significant achievements have been made in terms of protocol implementation for diabetes, hypertension and asthma; high levels of patient satisfaction with services rendered; increased access in terms of time facilities are open and HR to population ratios; improvement in access to basic medications and supplies.



The Belize National referral hospital, the Karl Heusner Memorial Hospital was transformed from a publicly run entity to a Statutory Authority in 1999. The hospital receives its funds primarily from Government without much accountability. Decisions on management and use of resources remain with the CEO of the Hospital and Statutory Board where the Ministry has representation through the CEO of the MOH and the Director

of Health Services. Presently the hospital offers services in the areas of hemodialysis, neurosurgery, cardiology (including intervention cardiology), cardiovascular surgery, neurology, as well as the basic services of general surgery, internal medicine, Obstetrics and Gynecology and Pediatrics.

Ambulance services are provided by the Belize Emergency Response Team (NGO initially financed by Wagner Foundation) that covers Belize District only. People using the services are required to pay; however, collections are below the necessary level needed to ensure sustainability so government subsidizes with a subvention. Most regional hospitals and some health facilities have government run ambulance services.

The health services are provided through primary care facilities located at community level (health centers and health posts) usually staffed with a Rural Health Nurse and in some cases a physician (Cuban brigade); Polyclinics that have a larger cadre of staff and services being provided such as laboratory services, imaging services, community based services such as immunization, prenatal care, vector control, environmental health, and personal curative services, 24 hour emergency services, and observation capacity (few beds for observation); Regional Hospital that in addition provide surgical facilities, and the specialty of OB/GYN, Internal Medicine and Pediatrics. Many of the services are taken to the communities on a mobile basis (immunization, prenatal care, and sometimes GP services).

The private sector has developed greatly over the past ten years or so. There are now three private hospitals in Belize City offering specialized services in cardiology, dermatology, neurology, and neurosurgery; one private hospital in San Ignacio, with another private facility that has limited in-patient and surgical services; and a network of private clinics throughout the country. The tendency has been to move from single practice to a group practice model.

**B) Governance:** The Ministry of Health, as part of its Reform initiative, redeployed all its Heads of Units to a central location, the offices in Belmopan. The roles and functions were changed from day to day operations of specific technical areas, to roles of Technical Advisors (in many instances the functional application did not change). This allows for better communication, coordination, and access to the Director of Health Services and Chief Executive Officer of the Ministry of Health. As part of its decentralization



policy, services were re-organized into Regions with a Regional Manager and Deputy Regional manager being the key personnel supported by a management team (included Hospital Administrators and Primary Care Coordinators). The inclusion of Service Level Agreements was intended to improve accountability and performance. Listings of basic indicators were given to each Region so that they would report on a regular basis. Budget is still administered centrally and controlled through Smart stream. The regulatory, monitoring and evaluation function including both public, private and NGOs services needs strengthening.

There are several legislative proposals that are pending. The Medical and Dental Act Nursing and Midwives Act, Allied Health Bill, which provides the framework for Regulation of the Medical Community; The Pharmacy Bill, Precursor Chemical Act, and the Antibiotic Act which will regulate and register medical importers and distributors of pharmaceuticals and medical equipments and the Medical Institution Bill. These legislative instruments will provide the MOH with the constitutional authority to carry out its regulatory function within the health system.



- C) Financing:** In the past Health care was primarily financed by the government. There exists a growing private health insurance and private investment in health. In 2005 the MOH budget represented 9.6% of the total government budget and 2.5% of GDP. In 2009/10 the MOH budget represented 11.9% of Government budget and 3.1% of GDP. The Total Health Expenditure has been estimated to be broken down into 63% from Public sources, 32% from private (mainly Out of Pocket) and 6% from external sources. Given that international benchmarks stipulate that Public Health Expenditure should be around 6% of GDP in order to be able to establish a good health system with the basic tenets of Universal Health Coverage; or that OOP expenditures should not be greater than 20% in order to ensure equity in access to health care, it is obvious that there is a wide gap in total investment and in the equitable and efficient use of health care financing in Belize.

The introduction of the National Health Insurance scheme in 2001 was intended to make universal health care available to the population without any financial barriers. This model was implemented in a limited geographic and population area, but the tenets continue to be those of universality to access without financial barriers.

Of interest to note is that within the Caribbean region, Belize has one of the lowest per capita health expenditure with moderate achievements in terms of certain health outcomes. These health outcomes referring to are, improve primary care services, increase immunization coverage to >95%, effective PMTCT program, improvements in vector borne diseases particularly, Malaria to a pre-elimination phase, and better outcomes for the population with increase Life Expectancy of 73 years for males and 76 years for females. Therefore the country has made effective investments with the limited resources in order to achieve better health outcomes.

INDICATORS	IDB (2010)	WHO (2010)	PAHO (2009/10)	ECLAC (2008)	WORLD BANK (2010)	MOH ESTIMATE
(2007)						
THE%GDP	5.4	5.2	4.4	3.4 (public only)	5.2	5.3
THE per cap (US\$)	228	239	..	..	239	199
PUHE%THE	63	63	70	..	63	72
PVHE%THE	32	32	30	..	32	28
ERH%THE (external resources)	6	5	--	..	5	..
OOP%PVHE	78	70	--	..	70	99
PUHE%TGE (budget)	12.0	11.4	--	..	--	12.1

Table 2.5 Comparing Key NHA Indicators from IDB, WHO, PAHO, ECLAC and World Bank

**THE** = Total Health Expenditure  
**PUHE** = Public Health Expenditure  
**PVHE** = Private Health Expenditure  
**OOP** = Out of Pocket Expenditure  
**TGE** = Total Government Expenditure

COUNTRY	THE PER CAP (US\$)	THE % GDP	LIFE EXPECTANCY (YEARS)	PROBABILITY OF DYING < 5 YEARS (PER '000)	PROBABILITY OF DYING 15–60 YEARS (PER '000)
Belize	202	4.5	75	18	166
Bahamas	1481	7.2	76	12	164
Barbados	974	6.7	76	11	108
Guyana	122	8.1	67	35	257
Dominica	337	6.0	74	10	147
Jamaica	256	4.8	71	31	177
Surinam	423	7.2	72	26	172
T'dad & T'bgo	908	4.7	70	35	172
Costa Rica	618	9.6	79	11	93
Guatemala	184	6.9	71	40	214
Mexico	588	7.6	77	17	122

Table 2.6 Data on Health Spending and Health Outcomes in Select Countries  
(Source PAHO and WHO databases, 2009/10)

NATIONAL (TOTAL) HEALTH EXPENDITURE AS A% OF GDP IN BELIZE			
Public	Private	Total	
1980/1	2.3	2.3	4.7
1990/1	2.2	2.3	4.6
2006/7	2.6	1.6	4.2
2007/8	2.6	1.3	3.9
2008/9	2.6	1.3	3.9
2009/10	3.1	1.3	4.4

Table 2.7 PAHO Estimates of NHA for Belize in Selected Years  
(Source PAHO and WHO databases, 2009/10)

## D) Health Information System:

The Belize Health Information System (BHIS) is a home grown health IT solution that was borne out of the Health Reform initiative as a specific need. The BHIS was initially installed in 2004 at the Karl Heusner Memorial Hospital (KMH), the main referral hospital in the Belize and has since been implemented in every public hospital, poly clinic and some health centers across the country.

The objectives of the BHIS include:

- Expanded coverage of the Belize Health Information System (BHIS) to rural and outlying areas

- Strengthening of the vital registration system,
- Improve data security and privacy of health information,
- Integrate data sources electronically to facilitate data analysis and reporting of health information,
- Enhance IT support functions, particularly, at regional and lower levels,
- Strengthen disease surveillance; reinforce control of non-communicable diseases (notably diabetes and cardiovascular illnesses) via the use of decision-support tools.
- Promote health research and strengthen local and international partnerships on health information systems.

**E) Medicines and Technology:** In the area of pharmacy there have been significant changes over the past year. The establishment of the pharmacy module within the BHIS was introduced in 2008, and populating the system with all formulary listing and medical supplies has improved the capacity for management and monitoring of pharmaceuticals. An open tendering process was introduced in 2002 with the expectation that there would be more transparency and better price for quality. Suppliers contracts are to procure store and distribute to the network of government facilities. The benefit of prices that was achieved with suppliers was expected to be shared with the private sector and the general public.

Significant challenges remain in trying to implement the rational use of medications that are of good quality for a good price, as well as ensuring access to these across the country. Lack of enforcement of contractual stipulations limits the regulatory effectiveness of the Ministry of Health. Despite the use of an electronic system (BHIS), there continues to be stock outs at almost all facilities; poor use of the information system by physicians which provides limited data for management/monitoring; more support and regulatory teeth needed for the Drug Inspectorate. At this time, except for the pharmacies, labs and imaging providers contracted under the National Health Insurance Scheme, there is increasing monitoring and enforcement of standards for the private sector.

**F) Human Resources:** There is a need for improvement in country-level coordination of health training among the many stakeholders in the health field. Poor coordination in training manifests itself in the following; Mismatching skills and assigned jobs and

available post required by the country's health care need. Furthermore; there is a need to strengthen the management of recruitment and deployment of staff. This process should be objective, transparent and appropriate. The above causes serious disruptions in service delivery at facilities serving the most vulnerable populations.

The PAHO/WHO Toronto Call to Action (2006-2015) that addresses five (5) identified HRH Challenges in order to achieve the Millennium Development Goals (MDG) and to provide access to quality health care for the Belizean Population. The areas identified include: Policies and Plans; The Right People in the Right Places; Migration; healthy workplace; Inter-institutional cooperation.

There is also a serious shortage of certain specialties such as (physiotherapist, biomedical technicians, X-Ray technician, and ultrasound -no- graphers etc.) that severely restrict the quality and quantity of services being provided. In other areas, county to country cooperation has served to fill in the gaps, such as the Cuban Brigades and Nigerian Brigades that serve to provide coverage in remote areas. However, this dependency without



proper long term planning of needs is a weakness in the system which requires closer attention. This situation also highlights the improper use of resources as some physicians are located in areas where their skills cannot be maximized or utilized given the limited infrastructural/equipment support. The Ministry of Health is now trying to implement the electronic data base system with the BHIS to facilitate the monitoring of HR at the local level. The establishment of a National Steering Committee with active subcommittees

seeks to garner national support for the development of a feasible HRH Strategic Plan that addresses the five areas identified in the Toronto Call for Action, but as well meets the needs and demands of the Ministry of Health.

## Implications to Health

The previous section provides the information gathered by the Ministry of Health facilities

that gives a partial picture of the present epidemiological profile of the health of the population. Predominant among the conditions in a consistent manner is the issue of cardiovascular diseases that continue to be a major contributor to the burden of disease in Belize as in other parts of the world. Clearly defined risk factors include: smoking, alcohol consumption, obesity and dietary factors. These are clearly defined areas for primary intervention. An associated pathology is diabetes which is highly prevalent in Belize. The ever increasing problems of end-stage renal failure and the need for dialysis facilities that cannot seem to meet the growing demand, points to a failure in the prevention and proper management of the most common medical conditions leading to these complications, i.e, diabetes and hypertension. Of similar concern is the social epidemic of violence and injuries. While this is an area that does not traditionally fall within the domain of the health institutions, it is a major consumer of the limited resources that hospitals



have. It creates institutional needs that are expensive to meet while at the same time afflicting the young sector of the population, the productive engine for economic development.

Belize has made great strides in dealing with the challenge of HIV. The epidemic is finally seeing a plateau and an actual decline in incidence with a marked drop in prevalence. Continued efforts and investments need to be sustained in order to safeguard the gains made and to further decrease incidence and prevalence. This is another entity that has at its root the issue of lifestyle and behavior, amenable to primary prevention strategies. It is

noteworthy to mention the apparent high rates of “UTI’s” reported which can be an indicator of “STI’s” and should receive more attention.

Mothers and Children will continue to be a priority segment of the population. While great strides have been made in reduction of infant mortality, there remains an extremely high burden of the perinatal/neonatal mortality component, indicating an issue with quality and coverage of prenatal care. Particular attention needs to be paid to the first two years of life and nutrition practices. The Nutrition survey conducted indicates a critical period of intervention during the first two years of life. The southern districts show some of the worst indicators for child malnutrition



and specific efforts must be continued to change behavior and limit impact on cognitive and social development of future generations which is clearly affected by childhood malnutrition. By the same token, immunization must continue to maintain its level of success in coverage for BCG, Polio, DPT, and MMR. The immunization program continues to be one of the most cost effective interventions within the health sector. The program should also consider the inclusion of other cost-effective interventions such as the HPV vaccines for prevention of cervical cancer, and the seasonal influenza vaccines .

There are a series of needed services that are traditionally forgotten even though demographic and epidemiologic data points to problems in these areas. Mental health and geriatric health are two such areas.

Worldwide, problems such as depression, related suicides, drug addictions, alcohol consumption, violence and sexual abuse are growing issues, related in part to the disruption and changes being seen in the social/family structure as a consequence of the growing economic demands and pressures. The prescription and sale of antidepressants feature high on the pharmacologic utilization profile. Belize's mental health program needs to be strengthened, broadened, and integrated into the mainstream services being rendered.

With increase in life expectancy the population above 60 years of age is gradually increasing as a percent of the overall population. This comes with increasing needs and demands for the health services. It is well documented that this segment of the population has a higher utilization rate as well as a higher cost per capita due to the prevalent problems of hypertension and diabetes that generally afflict this population. It is also well established that the elderly many times do not have the necessary social support at home at a time when they are most in need. Adhering to medication regimens, lack of income and limitations in mobility pose some huge challenges for the elderly and the health services many times are not geared towards meeting the special needs of this population.

Population based services are a fundamental component of any health services. Environmental health must continue to feature high on the priority list. Dengue continues to be endemic, indicating a need for better and more proactive interventions. Malaria is gradually being eliminated but sustained efforts must continue in order not to lose the gains already made. These programs rely heavily on the ability of teams to mobilize and this has remained as one of the greater challenges facing the Ministry of Health. Strengthening partnerships with other sectors remains an area that





needs to be developed. Community involvement in preventive interventions is a key element in order to achieve long term impact.

As one looks at the epidemiologic profile of Belize and the changes seen over the last five years, it is very clear that the primary health pathologies seen have to do with lifestyles. Chronic non-communicable diseases have at its core determinants the poor nutrition and inactivity or sedentary lifestyle. HIV and other STI's also have lifestyle as its root determinant.

Violence and injuries are predominantly socially determined consequences with poverty playing a key influencing role. Strategically, this implies that interventions must be focused on programs and services that address these root causes, while at the same time strengthening of services to deal with the pathologies in an efficient, effective and sustainable manner. Focusing on schools and educating our young kids to change their eating habits and develop healthier patterns of behavior would be considered a key preventive strategy that would pay off in the long run. Strengthening services to provide integrated care, with adequate Human Resources and support services available at the primary level and proper referral conduits that make the system more efficient and cost effective would also be logical interventions.

All this implies re-organizing administration and financing of health care. It also implies stronger collaboration with other sectors that have direct influence on social determinants of health. It also implies more long term planning in areas such as Human Resources in Health and Health Financing. Quality of care is a growing concern and must be factored into the re-organization and planning process. People must be made accountable and administration must be transparent in order to achieve significant progress in an efficient and effective manner.

### **Moving to Universal Coverage, a System Response (WHO 2010 Report)**

Promoting and protecting health is essential to human welfare and sustained economic and social development. There are many ways to promote and sustain health and some prerequisites lie outside the confines of the health sector. Education, housing, food and employment all impact on health, so that redressing inequalities in these will reduce inequalities in health.

But timely access to health services - a mix of promotion, prevention, treatment and rehabilitation – is also critical. This cannot be achieved without a well-functioning health financing system. It determines whether people can afford to use health services when they need them and if the services exist.

Recognizing this, Member States of the World Health Organization (WHO) committed in 2005 to develop their health financing systems so that all people have access to services and do not suffer financial hardship paying for them. This goal was defined as universal coverage, sometimes called universal health coverage. Belize as a member state is committed to the principles and guidelines espoused in the declaration. Coverage must be equitable and a proper mechanism must be established to monitor and evaluate progress. Health financing is an important part of broader efforts to ensure social protection in health.



Three fundamental, interrelated problems impose restrictions in terms of moving closer to universal coverage. The first is the availability of resources. No country, in spite of financial substantial financial resources, has been able to ensure that everyone has immediate access to every technology and intervention that may improve their health or prolong their lives.

The second barrier to universal coverage is an overreliance on direct payments at the time people need care. These include over-the-counter payments for medicines and fees for consultations and procedures.

The third impediment to a more rapid movement towards universal coverage is the inefficient and inequitable use of resources. At a conservative estimate, 20–40% of health resources are being wasted. Reducing this waste would greatly improve the ability of health systems to provide quality services and improve health. Improved efficiency often makes it easier for the ministry of health to make a case for obtaining additional funding from the ministry of finance.

The path to universal coverage, then, is relatively simple – at least on paper. Countries must raise sufficient funds, reduce the reliance on direct payments to finance services, and improve efficiency and equity.



The challenges derived from the particular circumstances and environment in the Caribbean and Latin America, calls for a very particular health system to be implemented. Built on experience and past successes, the Pan American Health Organization has proposed, and it has been endorsed by member countries, including Belize, a way forward. A system based on Primary Health Care.

A PHC-based health system is composed of a core set of functional and structural elements that guarantee universal coverage and access to services that are acceptable to the population and that are equity-enhancing. It provides comprehensive, integrated, and appropriate care over time, emphasizes prevention and promotion, and assures first contact care. Families and communities are its basis for planning and action. It system requires a sound legal, institutional, and organizational foundation as well as adequate and sustainable human, financial, and technological resources. It employs optimal organization and management practices at all levels to achieve quality, efficiency, and effectiveness, and develops active mechanisms to maximize individual and collective participation in health. A PHC-based health system develops intersectorial actions to address other determinants of health and equity. International evidence suggests that health systems based on a strong PHC orientation have better and more equitable health outcomes, are more efficient, have lower health care costs, and can achieve higher user satisfaction than those whose health systems have only a weak PHC orientation.

The reorientation of health systems towards PHC requires a greater emphasis on health promotion and prevention. This is achieved by assigning appropriate functions to each level of government; integrating public and personal health services, focusing on families and communities; using accurate data in planning and decision-making, and creating an institutional framework with incentives to improve the quality of services. Full realization of PHC requires additional focus on the role of human resources, development of strategies for managing change, and aligning international cooperation with the PHC approach (PAHO,2007).

## Strategic Framework

### *Strategic Goals for the Health Sector*

- Strengthen inter-sectorial participation for effective and efficient delivery of preventative, promotive, curative, rehabilitative services to the communities taking into consideration their cultural and social characteristics.
- Ensure strong leadership and governance at all levels.
- Development of innovative strategies to promote inter-sectoral partnerships to improve the wellness of the population.
- Advocacy for universal health coverage as a guiding principle for socio-economic development.
- Adoption of appropriate technology to increase efficiency and effectiveness in health care delivery.
- Public sector, private sector, civil society and communities working together to protect and improve the health and well-being of the population of Belize.
- Building strong partnerships with communities and involving them in planning, implementation and evaluation of plans and programs geared towards social development.
- Human Resources for national development to ensure well trained customer friendly and committed individuals to meet the health and wellness needs of the communities.

# Ministry of Health Strategic Objectives

## Strategic Objective 1:

*Integrated Health Services Based on Primary Health Care for improved Health outcomes*

EXPECTED OUTCOMES	STRATEGIES	INDICATORS
Increased coordination in health service delivery among providers and stakeholders to ensure continuity of care.	Develop and strengthen Private/Public and civil society partnerships.  Training of HR in IHSDN concepts.	<ol style="list-style-type: none"> <li>1. Coordination mechanism agreed and implementation by 2015.</li> <li>2. Revise and update service level agreements by 2014.</li> <li>3. Implementation of updated service level agreements in 100% of facilities by 2016.</li> </ol>
Health system organized to increase accessibility to health services in an equitable manner.	Implement the Integrated Health Service Delivery Network approach	<ol style="list-style-type: none"> <li>1. Integrated Health Service Delivery Network approach adopted in all primary care services.</li> <li>2. Basic package of services for primary and secondary care services defined and approved by 2014.</li> <li>3. 50% of facilities providing basic package of services, by 2015.</li> <li>4. 100% of facilities providing basic package of services by 2018.</li> <li>5. Number and distribution of health facilities per ten thousand population.</li> </ol>
Improve quality of care according to defined standards	Capacity building and advocacy for production, dissemination and use of information, including systematic documentation and promotion of best practices  Policy formulation for Quality Improvement.	<ol style="list-style-type: none"> <li>1. Care protocols for common NCDs developed and adopted by 2015.</li> <li>2. 100 % of facilities utilising care protocols and guidelines by 2014.</li> <li>3. Implementation of quality monitoring tools for use of care protocols.</li> <li>4. Development of National Policy on Quality Improvement.</li> <li>5. Patient Satisfaction surveys introduced in 90% of facilities by end of 2015.</li> </ol>

Increase efficiency and productivity in management of health services	<p>Institute Performance Based Management.</p> <p>Development of M&amp;E framework for MOH</p> <p>Training of HR</p>	<ol style="list-style-type: none"> <li>1. Performance Based Management framework developed by the end of 2018.</li> <li>2. Implementation of framework in 50% of facilities by 2015 and the other 50% by 2016.</li> <li>3. Defined M&amp;E mechanism for MOH by 2014.</li> <li>4. 100% of Regions present Annual Operational Plans.</li> </ol>
Define basic package of services	<p>Ensuring enabling legislative framework are in place and enforced</p> <p>Social Participation</p>	<ol style="list-style-type: none"> <li>1. Develop primary care service protocols.</li> <li>2. Administrative and Operating Procedures defined by end of 2014.</li> <li>3. Financing mechanisms defined.</li> <li>4. Mechanism for community involvement defined by 2014.</li> <li>5. Public Information campaign designed by 2014.</li> <li>6. Monitoring of the patient bill of rights charter.</li> </ol>

## Strategic Objective 2:

### *Strengthening the Organization and Management of Health Services*

EXPECTED OUTCOMES	STRATEGIES	INDICATORS
Effective governance structures for community and provider institutions implemented.	<p>Decentralization of Management.</p> <p>Evaluation of the Health Sector Reform Project.</p> <p>Development of Policy framework to support structure.</p> <p>Training of HR in Systems management</p>	<ol style="list-style-type: none"> <li>1. National Social Council defined and enacted by law by 2015.</li> <li>2. District and village development teams functional.</li> <li>3. Develop and implement a monitoring framework for management teams.</li> <li>4. Policy framework defined by 2018.</li> </ol>
The steering role of the MOH strengthened	<p>Policy Development of Essential Public Health Functions implemented</p> <p>Strengthening of the legislative Framework</p> <p>Development of M&amp;E framework for MOH</p>	<ol style="list-style-type: none"> <li>1. 100% of legislative instruments approved by Cabinet.</li> <li>2. M&amp;E Structure defined and established within MOH by 2014.</li> <li>3. Action Plan developed based on EPHF.</li> </ol>



## Strategic Objective 3:

*Achieving Greater Equity, Cost Effectiveness and Efficiency in the Allocation and Use of Health*

*Resources (Improved Health financing to achieve Universal Health Coverage)*

EXPECTED OUTCOMES	STRATEGIES	INDICATORS
Government commitment to defined option for health sector financing.	<p>Establish a sustainable Health Financing Mechanism to supplement the Consolidated Fund</p> <p>Advocacy at Policy Level</p> <p>Marketing of Present “NHI model”.</p>	<ol style="list-style-type: none"> <li>1. Policy document prepared and presented to Cabinet by 2014</li> <li>2. Establishment of Lobby group by 2014.</li> <li>3. Marketing plan developed and implemented</li> </ol>
Equity, effectiveness and efficiency in the allocation and use of funds improved	Rolling out of National Health Insurance Scheme	<ol style="list-style-type: none"> <li>1. NHI model rolled out to 50% of the country by 2016 and to the entire country by 2018.</li> <li>2. Out of pocket expenditures reduced to 20% or less by 2024.</li> <li>3. 95% of support service items included in package available at all times by level of care, by 2016.</li> <li>4. HR ratio per population standard met by 2018.</li> <li>5. Implementation of best practices in purchasing of equipment and supplies by 2014.</li> </ol>
Sustainable Health Sector Financing option defined and implemented.	<p>Implement performance based budgeting approach to allocating health resources</p> <p>Development of Policy Framework.</p> <p>Advocacy at Policy and Populations levels</p>	<ol style="list-style-type: none"> <li>1. Monitor the total expenditure on health as a % of GDP.</li> <li>2. Public expenditure on health at 6 % of GDP.</li> <li>3. Financial regulations developed and approved to Govern NHI scheme.</li> <li>4. Performance base budget fully implemented by 2015.</li> </ol>

Transparency and Accountability in Financial management.	Institutionalization of National Health Accounts	<ol style="list-style-type: none"> <li>1. NHA reports produced on annual basis.</li> <li>2. Dissemination of reports to public.</li> <li>3. External Audit mechanism established.</li> </ol>
	<p>Institute effective and efficient mechanisms for management, procurement and distribution of pharmaceuticals, medical supplies and equipment.</p> <p>Policy framework established for procurement based on best practices.</p> <p>Establishment of a drug registry</p>	<ol style="list-style-type: none"> <li>1. Tendering mechanism for medicines and technology established.</li> <li>2. External Auditing mechanism established for Tendering process.</li> <li>3. Annual reports published on performance of Tendering committees</li> </ol>

## Strategic Objective 4:

*Strengthen Capacity for Human Resources for Health Planning to meet present and future Health sector needs*

EXPECTED OUTCOMES	STRATEGIES	INDICATORS
The availability of a cadre of well trained and competent health workers with the capacity to deliver quality health services	Develop appropriate HR policies, procedures and guidelines.  Strengthen the Human Resource for Health Observatory	<ol style="list-style-type: none"> <li>1. Recruitment time for key positions reduced by 2014.</li> <li>2. Develop a HRH database that supports planning by second quarter in 2014.</li> <li>3. Development of a public relations and communication plan for health care personnel.</li> </ol>
Human Resource planning and management functions increased	Strengthen human resource planning and management	<ol style="list-style-type: none"> <li>1. Health professionals' capacity to manage strategic information, monitor performance and formulate policies increased by 2018.</li> <li>2. 100% of health councils for each profession established by 2018.</li> <li>3. Human Resource Health Plan developed to include both private and public sector</li> </ol>
Health facilities adequately staffed	Implement retention and recruitment strategies	<ol style="list-style-type: none"> <li>1. Implementation of recruitment and retention plan by 2015.</li> </ol>

## Strategic Objective 5:

*Strengthening of the Belize Health Information System to Support Evidence based Planning in the provision and delivery of Health Care*

EXPECTED OUTCOMES	STRATEGIES	INDICATORS
The health status of the population accurately described and monitored	Monitoring and Evaluation for compliance Strengthen legislation to support protocols for data exchanged among entities	<ol style="list-style-type: none"> <li>1. M &amp; E plan developed and implemented to help accurate and thorough data entry</li> <li>2. BHIS implemented in 100% of accessible health centers having available infrastructure to support e-health.</li> <li>3. Develop legislation to support BHIS as a legal health information system</li> </ol>
Utilization of data for evidence-based planning and decision making	Capacity development in Health Informatics  Standard Operating Procedures for creating linkages between HIS and operations  Management training in the use of health data and information	<ol style="list-style-type: none"> <li>1. Evidence base policy formulated</li> <li>2. Research development to support policy making decisions and interventions</li> <li>3. Management teams trained and using BHIS develop reports , SLAs, for decision making</li> </ol>
Surveillance of Non Communicable Diseases and Communicable diseases strengthened.	Foster an enabling environment that facilitates the generation and use of health information  Improved Data quality for decision making my all levels of management	<ol style="list-style-type: none"> <li>1. Health Care professional trained in surveillance</li> <li>2. Launching of NCD plan by mid-2014</li> <li>3. National registries for selected diseases developed (Cancer, Diabetes)</li> </ol>

## Strategic Objective 6:

*Development of Quality Improvement framework to ensure stakeholder accountability*

EXPECTED OUTCOMES	STRATEGIES	INDICATORS
Quality improvement Framework for all levels of the health system designed and implemented.	<p>Development of Protocols and procedures for priority areas to standardize service delivery.</p> <p>Development and implementation of key facility performance indicators to include monitoring and evaluation tool.</p> <p>Establish quality system structures</p> <p>Implementation of M &amp; E mechanisms to ensure application of quality standards</p> <p>Develop and implement feedback mechanism</p>	<ol style="list-style-type: none"> <li>1. Quality Assessment team established.</li> <li>2. Monitoring of all health facilities bi annually.</li> <li>3. Quality system structure established by 2018</li> <li>4. Monitor and Evaluation mechanism developed and implemented in all health care facilities</li> <li>5. Client and provider satisfaction increased</li> </ol>

## Strategic Objective 7:

### *Efficient and Effective Health Infrastructure Development*

EXPECTED OUTCOMES	STRATEGIES	INDICATORS
Physical health environment for health care delivery to clients improved.	<p>Develop health facility maintenance plan</p> <p>Approved building standards and specifications for each type of health facilities.</p> <p>Develop physical structure to meet needs of population - elderly, disabled, diabetics, hypertensive</p>	<ol style="list-style-type: none"> <li>1. 100% of health facilities develop and implement a preventive maintenance plan by the end of 2016.</li> <li>2. NEMC develop a monitoring plan for the implementation of preventive maintenance.</li> </ol>
Rational use of Technology for health.	<p>Develop effective physical structure monitoring mechanism</p> <p>Develop Procurement policy for equipments</p>	<ol style="list-style-type: none"> <li>1. Quality standards for support services developed and approved by 2018.</li> <li>2. 100% of equipment procured with compliance with procurement guideline</li> </ol>
Quality of Work environment for health workers enhanced	<p>Assessment and use of appropriate technology</p> <p>Adopt OSHA standards</p>	<ol style="list-style-type: none"> <li>1. Timely replacement of supplies.</li> <li>2. Develop mechanisms to determine if technology is appropriate.</li> <li>3. Implementation of the OSHA standards in all health facilities.</li> </ol>
Preventive Maintenance program established	<p>Develop of integrated service coverage plan for preventative maintenance of equipment (automated ticketing system)</p> <p>Develop core competencies of NEMC service department to meet changing needs in the health service</p> <p>Facility Standards established</p>	<ol style="list-style-type: none"> <li>1. Ticketing System Implemented, involved parties trained to be competent in its usage.</li> <li>2. 100 % NEMC staff trained</li> <li>3. Implement SAFE and SMART standards for facilities</li> </ol>

## Implementation of HSSP

### *Major Challenges, Risk and Solutions*

***Financing for the System.*** Belize is classified as a lower middle income country: about 44% of the people live below the poverty line and poverty is one of the major determinants of health status; hence a major threat to the implementation of HSSP and achievement of its related targets. While Belize economy has been growing steadily over the last few years, government allocation to the health sector has been stable at around 5.4% of GDP. The unfavorable macroeconomic environment, threaten government contribution to the health sector, heavy reliance on donor funding, high transaction costs.

***Burden of Disease.*** Belize is one of the countries that have been heavily affected by the triple burden of Communicable Diseases, Non Communicable Diseases and maternal and child health conditions. These disease conditions claims the lives of young and economically productive Belizeans. Thus, threatens the availability of HRH and contribution to the economic development of Belize. The continued HRH crisis in the health sector if not addressed will threaten the implementation of the HSSP.

***Increased demand for services.*** The geographic location and distribution of the Belizean population presents a key challenge for health care service delivery and impacts accessibility, patient transfers, the scope and mix of services available, and the availability of health professionals to deliver quality and equitable care to all. Internal migration to urban centers, immigration and the economic downturn has contributed to increased demand on the public health system. Over the last five years, total public outpatient visits increased at a rate faster than the population growth with approximately a 29% per year increase in utilization compared to about 1.1% grown in population from 2000 to 2008 (Epidemiology Unit , MOH.) Meeting this demand will require additional human resources and improved health care facilities, along with targeted interventions, programs



and services to meet the needs of people in more densely populated areas. At the same time however, we must continue to improve access to high quality care and services on the rural communities, finding innovative new ways to bring services closer to people where feasible and to use technology to bridge geographic barriers to care.

***Health Practices.*** Poor health seeking behavior, poor healthy lifestyle practices

***Demographics.*** The increase life expectancy, thus the increase in the elderly population will require that the health system provide services for the elderly population, and move towards this paradigm shift.

***Human Resource for Health.*** Belize faces shortages in many categories of health care providers, including nurses, specialist and allied health professionals in particular. The public sector in Belize has approximately 15 registered nurses per 10,000 persons, which compares favorably with the Caribbean median of 17 nurses per 10,000 population, but well below the median of 105 nurses per 10,000 persons in developed countries. Furthermore, the physician population ratio is even wider with one physician per 1,000 persons.

Ratios per capita for allied health professionals (such physiotherapists, speech and other rehabilitation therapists, pharmacists, and laboratory technologists) are not sufficient to meet demand.

The need for a sufficient skilled workforce of nurses and allied health professions is heightened with an increased focus on primary care, health promotion and prevention.

### ***Coordination and Management of the HSSP***

The managing and monitoring of the implementation of the HSSP is the responsibility of the Ministry of Health; with support from the stakeholders. Ministry of Health has the legal mandate for the health sector, and the technical capacity to lead the process. The capacity of the Policy Analysis and Planning Unit (PAPU) will need to be strengthened, to lead the development of the implementation of the HSSP. The PAPU unit will take the lead in developing a detailed implementation plan, and will work with health system partners to integrate and coordinate plans and activities.

A multi-sectoral governance committee with partners from health and other sectors will monitor and report progress and achievement using the performance measurement framework and indicators outlined in this document.

### *Annual Operational Plans and Budgets*

Annual operational plans will be developed and a costing of the annual plans will be done to ensure that implementation and achievement of indicators with target is possible as it relates to financial resources. Program budgeting will be used to ensure efficiency in funding and optimal use of resources.

## **Monitoring and Evaluation**


### *Outcome, Performance and Process indicators*

The health sector strategic goals will be measured by the following outcome indicators. There will be quarterly monitoring assessments towards the achievement of these indicators over the ten year period. The Ministry of Health objectives and achievements is set out in three different phases towards achievement of all objectives and indicators by 2024. The indicators below will reflect short, medium, and long term indicators.


### *Outcome Indicators for the Health Sector Goals*

1. Defined mechanism for inter-sectoral participation.
2. Functional mechanism for inter-sectoral participation.
3. Shared operational processes /plan.
4. Country wide implementation of the National Health Insurance to achieve universal health coverage.
5. Monitoring and evaluation strategy established.
6. Percentage of public, private and NGO partnerships in service delivery.
7. Functional village and district development committees.
8. Capacity building for the health sector.

## Monitoring of Target Indicators for Ministry of Health Strategic Objectives from 2014 to 2024

		
2014	2017	2020
2024		
SHORT TERM TARGET INDICATORS	MEDIUM TERM TARGET INDICATORS	LONG TERM TARGET INDICATORS
Objective 1: Integrated Health Services Based on Primary Health Care for Improved Health Outcomes		
<ol style="list-style-type: none"> <li>1. Coordination mechanism agreed and implemented.</li> <li>2. Revise and update service level agreements</li> <li>3. Implementation of updated service level agreements in 100% of facilities.</li> <li>4. Basic package of services for primary and secondary care services defined and approved by 2014.</li> <li>5. 50% of facilities providing basic package of services, by 2015.</li> <li>6. Care protocols for common NCDs developed including quality monitoring tool.</li> <li>7. 100% of facilities utilizing care protocols and guidelines by 2015.</li> <li>8. Patient Satisfaction survey introduced in 90% of facilities by 2015, and all facilities by 2016.</li> <li>9. 100% of Health Regions present Annual Operational Plans.</li> <li>10. Defined a monitoring and evaluation mechanism for MOH.</li> <li>11. Develop primary care service protocols.</li> <li>12. Mechanism for community involvement defined by end of 2014.</li> </ol>	<ol style="list-style-type: none"> <li>1. Integrated Health Service Delivery Network approach adopted in all primary care services.</li> <li>2. 100% of facilities providing basic package of services by 2018.</li> <li>3. Development of National Care Protocols for Quality improvement.</li> <li>4. Performance Based Management Framework developed by 2018.</li> <li>5. Implementation of Framework by 2020 in all facilities.</li> <li>6. Administrative, financial and operating management procedures defined.</li> </ol>	

Objective 2: Strengthen the Organization and Management of Health Services		
<ol style="list-style-type: none"> <li>1. National Social Council Defined and established by 2015.</li> <li>2. Evaluation of the Health Sector Reform Project.</li> <li>3. District and Village development teams functional.</li> </ol>	<ol style="list-style-type: none"> <li>1. Policy Framework defined by 2018.</li> <li>2. Develop and implement a monitoring framework for management teams.</li> <li>3. 100% of legislative instruments approved by Cabinet by 2019.</li> </ol>	
Objective 3: Achieving greater equity, cost effectiveness and efficiency in allocation and use of health resources(Improved Health Financing to achieve Universal Health Coverage)		
<ol style="list-style-type: none"> <li>1. 95% of support services items included in package of services available at all times at all levels of care by 2016.</li> <li>2. Policy document for NHI expansion prepared and presented to Cabinet by 2014.</li> <li>3. Financial Regulations to govern NHI Scheme developed and implemented by 2015.</li> <li>4. Annual National Health Accounts Report disseminated to the public.</li> <li>5. Annual reports published on performance of tendering committees.</li> </ol>	<ol style="list-style-type: none"> <li>1. NHI model rolled out to the entire country by 2018.</li> <li>2. Human Resource ratio per population standard met by 2018.</li> <li>3. External Audit mechanism established by 2018.</li> <li>4. Tendering mechanism for medicines, technologies strengthened.</li> </ol>	<ol style="list-style-type: none"> <li>1. Out of pocket expenditure reduced to 20% or less by 2024</li> <li>2. Public expenditure on health at 6% of GDP by 2014.</li> </ol>
	←	→
	←	→
Objective 4: Strengthen Capacity For Human Resource For Health Planning To Meet Present And Future Health Sector Needs		
<ol style="list-style-type: none"> <li>1. Recruitment time for key technical and management positions reduced by end of 2014.</li> <li>2. Data base for HRH developed by second quarter of 2014.</li> <li>3. Health Councils for each health related profession established by 2017.</li> <li>4. Implementation of recruitment and retention plan by 2015.</li> </ol>	<p>Health professionals' capacities in management, strategic information, monitoring performance and formulation of institutional policies increased by 2018.</p>	

Objective 5: Strengthening Of The Belize Health Information System To Support Evidence –Based Planning In The Provision And Delivery Of Health Care.		
1. Usage of data from BHIS by regional management teams to develop reports, SLAs, prompt evidence base decision making.	1. All health care professionals trained in surveillance by 2020.	1. BHIS implemented in 100% of Health Facilities by 2022. 2. Research development to support policy, and decision making and interventions.
Objective 6: Development Of Quality Improvement Framework To Ensure Stakeholder Accountability		
1. Quality Improvement Assessment team established by 2014. 2. Monitoring of Health Facilities bi annually 3. Key Facility performance indicators with monitoring and evaluation tools developed for all levels of health facilities with collaboration from the private sector. 4. Standardized patient / client survey mechanism developed and functional at all health facilities. 5. Quality improvement standards developed.		1. 50% of Support Services in Belize (Include both private and public) achieved accreditation standards
		2. 50% of Regional Hospitals and 25% of Community Hospitals with improve quality standards.
Objective 7: Efficient and Effective Health Infrastructure Development		
1. NEMC develops a monitoring plan for the implementation of a national preventative maintenance program by 2015. 2. 100% of Health facilities developed and implement a preventative maintenance plan by the end of 2016. 3. 100% of equipment procured according to procurement guidelines.	1. Quality standards for support services developed and approved by 2018.	1. Standards/Guidelines established for the development of new health infrastructure. 2. Integrated Health systems delivery network functional by 2024.

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## NOTES

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