



HEALTH SYSTEMS PROFILE

BARBADOS

MONITORING AND ANALIZING HEALTH SYSTEMS
CHANGE/REFORM

December 2008

AREA OF HEALTH SYSTEMS AND SERVICES HSS-SP

PAN AMERICAN HEALTH ORGANIZATION/
WORLD HEALTH ORGANIZATION



**Pan American
Health
Organization**

Regional Office of the
World Health Organization

HEALTH SYSTEMS PROFILE BARBADOS

December 2008

Area of Health Systems and Services HSS-SP
Pan American Health Organization/
World Health Organization



PAHO HQ library Catalog-in-Publication

Pan American Health Organization
"Health Systems Profile Barbados"
Washington, D.C.: PAHO, © 2008

ISBN: 978-92-75-12959-3 (*print*)

ISBN 978-92-75-13031-5 (*electronic*)

I. Title

1. HEALTH SYSTEMS
2. HEALTH CARE REFORM
3. HEALTH PUBLIC POLICY
4. ESSENTIAL PUBLIC HEALTH ACCESIBILITY
5. HEALTH SERVICES ACCESIBILITY
6. HEALTH PROFILE
7. BARBADOS

NLM – WA540.DB34

Washington D.C., 2008

The electronic version of this document is available on the Health Systems Strengthening in Latin America and the Caribbean website and can be accessed at: www.lachealthsys.org. For any questions regarding this document, please contact info@lachealthsys.org.

This publication was produced by the Pan American Health Organization/World Health Organization (PAHO/WHO). It was made possible through support provided by the Office of Regional Sustainable Development, Bureau for Latin America and the Caribbean, U.S. Agency for International Development (USAID), under the terms of Grant No. LAC-G-00-07-00001. The opinions expressed in this publication are those of the author (s) and do not necessarily reflect the views of USAID.

This document can be reproduced and/or translated, in whole or in part, for non-commercial purposes only.



ACKNOWLEDGEMENTS

List of persons and institutions that participated in the elaboration of the Health Systems Profile:

Participating Institutions: Ministry of Health, Barbados

Members of Team: Mr. Samuel Deane
Ms. Stacia Ishmael
Ms. Stacie Goring
Mrs. Angela Crawford
Mrs. Roxanne Beckles-White
Mr. Marc Ifill
Mrs. Heather Payne Drakes
PAHO/ECC Office, Barbados

Validating Institution: Ministry of Health, Barbados

External reviewers:

Mr. Martin Cox	<i>Permanent Secretary, Ministry of Health</i>
Dr. Joy St. John	<i>Chief Medical Officer</i>
Dr. Ingrid Cumberbatch	<i>Senior Medical of Health (North) a.g.</i>
Dr. Elizabeth Ferdinand	<i>Senior Medical Officer of Health (South)</i>
Dr. Leslie Rollock	<i>Senior Medical Officer of Health (CNCD) a.g.</i>
Mrs. Denise Carter-Taylor	<i>Senior Health Promotion</i>
Mrs. Larone Hyland	<i>Health Promotion Officer</i>

TABLE OF CONTENTS

LIST OF ACRONYMS	1
EXECUTIVE SUMMARY	3
INTRODUCTION	5
1. CONTEXT OF THE HEALTH SYSTEM	7
1.1. Health Situation Analysis	7
1.1.1. Demographic Analysis	7
1.1.2. Epidemiological Analysis	10
1.1.3. Millennium Development Goals	11
1.2. Determinants of Health	14
1.2.1. Political determinants	14
1.2.2. Economic Determinants	14
1.2.3. Social Determinants	15
1.2.4. Environmental Determinants	15
2. FUNCTIONS OF THE HEALTH SYSTEM	16
2.1. Steering Role	16
2.1.1. Mapping of the Health Authority	16
2.1.2. Conduct/Lead	17
2.1.3. Regulation	18
2.1.4. Evaluation of the Essential Public Health Functions (EPHF)	18
2.2. Financing and assurance	20
2.2.1. Financing	20
2.2.2. Assurance	22
2.3. Service Provision	23
2.3.1. Supply and Demand for Health Services	23
2.3.2. Human Resources Development	24
2.3.3. Medicines and other Health Products	26
2.3.4. Equipment & Technology	27
2.3.5. Quality Assurance	28
3. MONITORING HEALTH SYSTEM CHANGE/REFORM	29
3.1. Impact on Health System Functions	29
3.2. Impact on the Guiding Principles of Health Sector Reform	31
3.2.1. Equity	31
3.2.2. Effectiveness	32
3.2.3. Efficiency	33
3.2.4. Sustainability	34
3.2.5. Social Participation	34
3.3. Analysis of Actors	35
BIBLIOGRAPHY	36

LIST OF ACRONYMS

AMD	Age-related Macular Degeneration
BDS	Barbados Drug Service
BFCAS	Barbados Food Consumption and Anthropometric Surveys
BSPH	Barbados Strategic Plan for Health
CAREC	Caribbean Epidemiology Center
CARICOM	Caribbean Community
CCH	Caribbean Cooperation in Health
CNCD	Chronic Non Communicable Disease
CQI	Continuous Quality Improvement
DPT	Diphtheria, Pertussis, and Tetanus
EDF	European Development Fund
EPHF	Essential Public Health Functions
GDP	Gross Domestic Product
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
HR	Human Resources
IADB	Inter-American Development Bank
MDG	Millennium Development Goals
MOH	Ministry of Health
NGO	Non Governmental Organization
NSP	National Strategic Plan
PAHO	Pan American Health Organization
PHC	Primary Health Care
PRDS	Performance Review and Development System
PRODEV	Program for Strengthening the Capacity of Government
QEH	Queen Elizabeth Hospital
SAD	Specially Authorized Drug
SBS	Special Benefit Service
SLA	Service Level Agreement
SWAp	Sector Wide Programme
UNIFEM	United Nations Development Fund for Women
WHO	World Health Organization



EXECUTIVE SUMMARY

Barbados is an independent democratic country in the Caribbean with a mid-year population estimated at 275,000 in 2007 occupying 166 square miles; it is one of the most densely populated countries in the world. Bridgetown and its environs, is the most populated area. In 2008 total life expectancy at birth was 77.5 years, with female life expectancy reaching 80.0 and male life expectancy reaching 74.9. Infant mortality rate declined steadily from 14 per 1,000 live births in the period 1990 to 1995 to 11 per 1,000 in the period 2000 to 2005. In the latter period, total fertility rate was 1.5 births per woman.

A significant epidemiological trend in Barbados is the increasing prevalence of overweight, obesity, and chronic non-communicable diseases in the general population. The incidence rate of HIV remained stable, ranging between 0.14% in 2002 to 0.12% in 2007. There was a 65% decline in the number of HIV-related deaths between 2001 and 2006 but this trend was reversed in 2007, with a 53% increase in the number of reported deaths. Comprehensive health care is provided through a network of polyclinics, a secondary care institution, a mental hospital, and long-term facilities for the elderly and persons with disabilities. Health care services are provided free at the point of service in the public sector. The Barbados Drug Service provides drugs and other pharmaceuticals listed in the Barbados Drug Formulary free of charge to persons in the public sector and to pre-defined beneficiaries in the private sector.

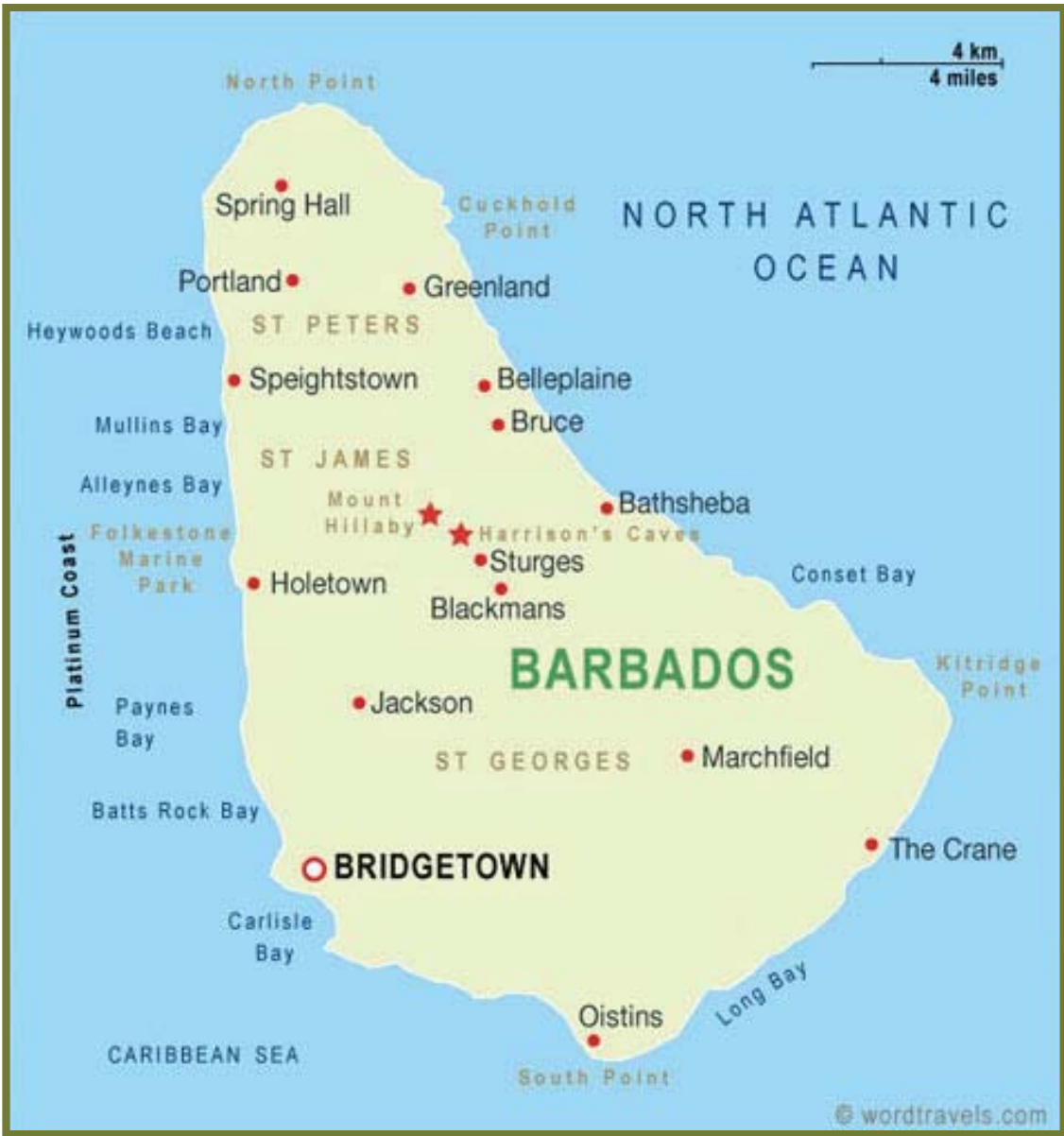
The Health Services Act Cap. 44 of the Laws of Barbados confer on the Minister of Health the responsibility for protecting the health of the population. The Ministry of Health is the singular executing agency for the delivery of health care, policy-making, and regulation of the health sector. The government's vision for a healthy people is to empower individuals, communities, and organizations to pursue health and wellness within a system that guarantees the equitable provision of quality health care. The Barbados Strategic Plan for Health 2002-2012, which was prepared with wide stakeholder participation, articulates the policy for health sector reform in Barbados.

The Millennium Development Goals and the Essential Public Health Functions provide the timeframe to measure achievements, acknowledge challenges, and plan forward-looking strategies to achieve an equitable efficient, effective and sustainable health care system in Barbados.



INTRODUCTION

Barbados is an independent democratic nation with a bicameral system of government. It is the most easterly of the Caribbean islands with an area of 430 sq. km and lies within the hurricane belt at latitude 13.05° north and longitude 59.3° west. Barbados is divided into 11 parishes and the capital is Bridgetown. The island is relatively flat, rising gently from the west coast in a series of terraces to a ridge in the centre. There are no mountains and the highest point, Mount Hillaby, is 340 meters above sea level.





1. CONTEXT OF THE HEALTH SYSTEM

The Government of Barbados accords high priority to developing an equitable, efficient, and accessible health care system within the context of its overall national development. The government has prioritized its goals and designed policies to ensure that the population achieves optimum physical, mental and social wellbeing, giving credence to the belief that health is a right for all Barbadians. The *Barbados Strategic Plan for Health 2002-2012* aims to reform the health system and outlines the strategic directions and monitoring mechanisms to achieve defined goals. The Plan emphasizes strengthening the Ministry of Health's stewardship function to provide leadership in setting the health policy agenda, enacting and enforcing regulations, monitoring and evaluating sector performance, and enhancing collaboration with the private sector and non-governmental organisations.

The national health profile of Barbados mirrors the scenario in developed countries which is characterized by a reduction in communicable diseases, with the exception of HIV/AIDS and an increase in chronic non-communicable diseases. The Plan envisions a national health system that responds to the changing health needs of the population—a system that is proactive in its strategic directions, taking into consideration global trends in service delivery. The primary health care (PHC) orientation is recognized as the fundamental and efficient way to organize such a health care system.

A study was completed in 2008 that examined the service output profile for the Queen Elizabeth Hospital, a 554-bed tertiary-care and teaching hospital. The purpose for the profile was to identify the activities that can be reassigned appropriately to the PHC setting. Simultaneously, there was an assessment of the capacity of private and public PHC providers to deliver a broad range of services, possibly including the provision of home care, particularly for the elderly population. This renewed emphasis to strengthen the PHC approach is in keeping with the call by the informal Commission on “Managing the Politics of Equity and Social Determinants of Health” to the 59th World Health Assembly (2006) to return to the 1978 Alma-Ata Declaration and address social determinants of health.

1.1. HEALTH SITUATION ANALYSIS

1.1.1. DEMOGRAPHIC ANALYSIS

Barbados is one of the most densely populated countries in the Caribbean region with an estimated total population of 269,000 dispersed over 166 square miles of land area in 2000. The population density was 1,627 inhabitants per square mile, representing an increase of approximately 8,000 inhabitants over a ten-year period. The crude birth rate decreased from 15.1 births/1,000 inhabitants in 2001 to 11.8 in 2005. The crude death rate averaged 8.6 deaths per 1,000 inhabitants in the period 2001-2005.

Table 1. Demographic Trends, Barbados, 1990, 2000 & 2005¹

POPULATION INDICATORS	1990	2000	2005
Total population (thousands)	261	269	275
Males (thousands)	125	129	132
Females (thousands)	136	140	143
Proportion of pop. below 15 years (%)	24.1	21.6	20.6
Proportion of pop. aged 15-59 years (%)	60.6	62.4	62.7
Proportion of pop. aged 60 years or over (%)	15.3	15.6	16.5
Proportion of pop. aged 80 years or over (%)	2.9	3.3	3.6
Median age (years)	28.9	33.1	34.7
Percentage urban*	44.8	50.0	52.9

Source: Barbados Population and Housing Census.

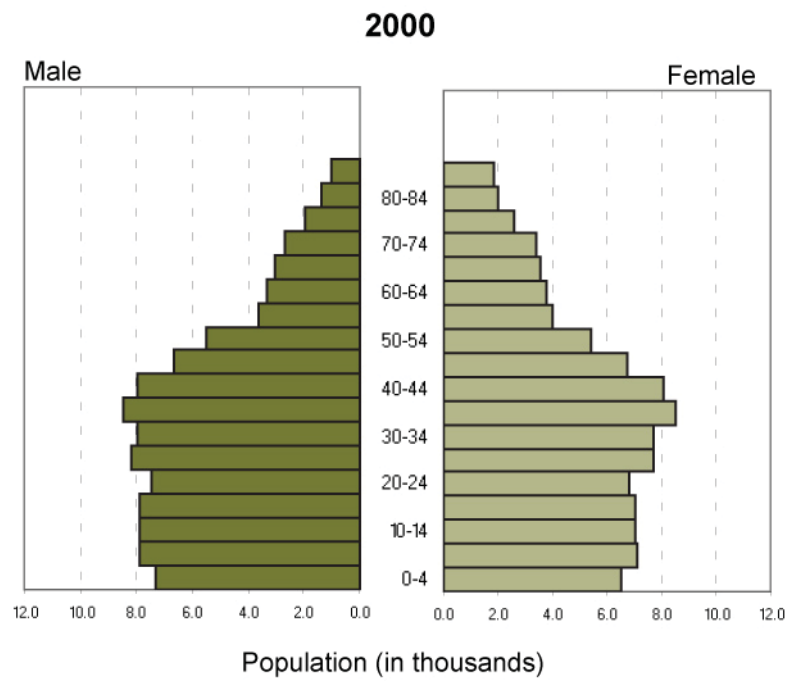
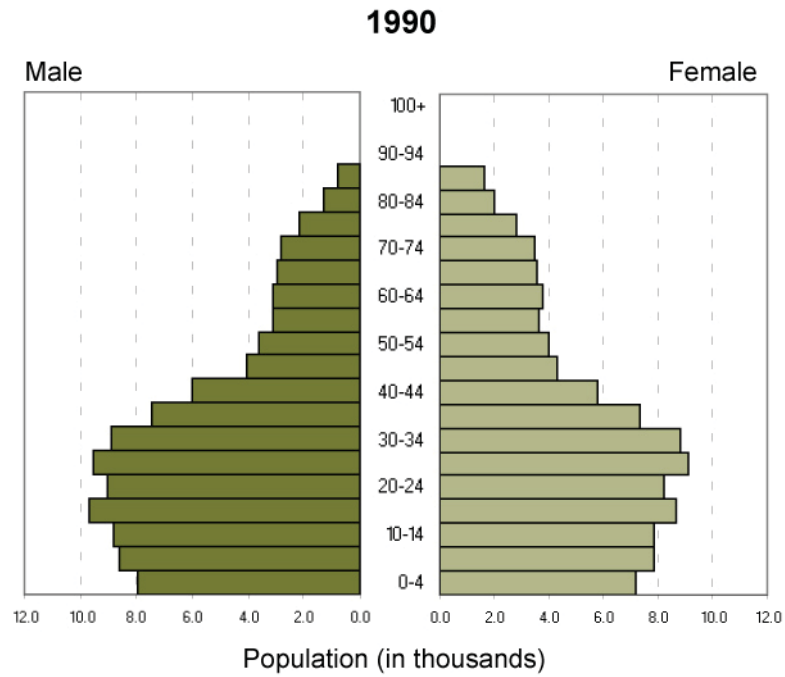
*United Nations Department of Economic and Social Affairs / Population Division PRED/Bank 4.0 Country Profiles.

In 2000, females outnumbered males accounting for approximately 52.0% of the population. While 21.6% of the population is under age 15 years, 62.4% is between the ages of 15–59 years. The median age of the population increased from 28.9 years in 1990 to 33.1 years in 2000. According to the United Nations Department of Economic and Social Affairs, the distribution between urban and rural areas is almost balanced with 44.8% of the population living in the urban areas in 1990, increasing to 50.0% in 2000 and to 52.9% in 2005.

The annual population growth rate remained steady at 0.3% between 1995 and 2005 with the 15–59 years age group experiencing the most significant growth averaging 1.1% over the period 1990 to 2005. A consistently negative growth rate averaging -1.4% was recorded for the population group under age fifteen years. This trend has significant implications for the planning and delivery of health care services, reflecting a rapidly aging population that places demands on service delivery, particularly for chronic non-communicable diseases and rehabilitative services. Total life expectancy at birth reflects the high quality of life enjoyed by nationals, averaging 74.9 years in the period 2003 to 2005, with females living around 5 years longer than males. The government has given particular attention to meeting the specific health needs of the population through the development and strengthening of health services that are considered critical for the effective and efficient delivery of services to distinct population groups.

¹ Error due to rounding.

Figure 1: Population Structure, by age and sex, Barbados, 1990 and 2000



Source: Barbados Population Census 1990 & 2000

1.1.2. EPIDEMIOLOGICAL ANALYSIS

One of the more significant epidemiological trends in Barbados has been the increase in prevalence of overweight and obesity in the population. The 2000 Barbados Food Consumption and Anthropometric Surveys (BFCAS) found the prevalence of overweight (pre-obesity) and obesity among adult Barbadians to be 55.8% in men and 63.8% in women. Among young adults (18-29 years), the prevalence of overweight and obesity was nearly 30% in young men and over 50% in young women.

A population based survey of chronic disease risk factors carried out in 2007 confirmed the level of obesity in men and women. Low levels of physical activity were reported among 42.5% of men and 59% of women in the sample. The survey also reported that 8.4% of the adult population are current smokers of tobacco. This is a decline from 11% reported in 2002. Therefore a comprehensive prevention strategy focusing on risk factor reduction is being developed.

According to the BFCAS, 24.2% of men and 37.5% of women stated that they were diagnosed with one or more chronic diseases. Among respondents over age 50 years, the prevalence rose to 39% in men and 69% in women. The Ministry of Health noted that the population affected by chronic diseases placed increased burden on the acute services at the Queen Elizabeth Hospital (QEH). It was also observed that patients affected by chronic, stabilized or incurable diseases represented 30% of admissions to the country's main hospital.

In response to these trends, in 2007, the Cabinet approved a policy for early intervention and preventive programs. This led to the establishment in 2007 of a National Chronic Non-communicable Diseases Commission to strengthen the management of these diseases and to develop policies and programs to address the reduction of risk factors for chronic diseases.

Infant mortality continued to decline steadily from 14 per 1,000 live births in the period 1990 to 1995 to 11 per 1,000 in the period 2000 to 2005. In the same period, total fertility rate was 1.5 births per woman. In 2006, there were 2 maternal deaths.

The leading causes of death in children under 5 years were conditions originating in the perinatal period followed by congenital anomalies. Deaths in the age group 5-14 years were due to cancer, diabetes mellitus, heart disease, diseases of the digestive system, road traffic accidents, and accidental drowning. The main causes of death in the age group 15-24 years were road traffic accidents, heart disease and HIV/AIDS. Heart disease, cerebro-vascular disease (stroke), diabetes mellitus, malignant neoplasms, hypertension and HIV/AIDS were the leading causes of mortality among adults. In 2003, disease of pulmonary circulation and other forms of heart disease and diabetes mellitus were the leading causes of death with a rate of 0.9/1,000 inhabitants for each. In the same year, cerebrovascular diseases accounted for 0.8 deaths/1,000, followed by ischemic heart disease with 0.7/1,000, and hypertension with 0.6/1,000.

The number of persons living with HIV at the end of December 2007 was 2,029 of which 1,038 were men and 861 women. Based on the prevalence of HIV in Barbados (1.9%), it is assumed that less than half of the persons who are HIV-positive are aware of their status. HIV/AIDS accounted for 0.1 deaths/1,000 inhabitants in that year. According to the Barbados HIV/AIDS Surveillance Report 2007, between 2001 and the end of 2006,

there was a 65% decline in the number of HIV-related deaths. However, between 2006 and 2007, the deaths increased from 33 to 50, which represent a 53% increase in the number of HIV-related deaths in 2007 over the previous year.

In 1990, immunization coverage for children less than one year was: polio, 85.2% and DPT, 85.4%. By 1994, coverage for polio and DPT had increased to 94.6% and 95.4%, respectively. However, for the period 2001 to 2004 immunization coverage showed a slight decrease: polio, 91%; DPT/HIB/HepB, 92%; and MMR, 93%. In 2007, coverage was polio, 93%; DPT/HIB/HepB, 92%; and MMR, 75% - this low coverage was due to the shortage of MMR vaccines. There were no reported cases of polio since the 1960s and incidences of diphtheria and whooping cough were last recorded in 1994. The Caribbean Epidemiology Center (CAREC) awarded the EPI team of the Ministry of Health of Barbados the top three positions in the Caribbean Regional Surveillance Award for its Expanded Program on Immunization in 2005, 2006, and 2007.

Five cases of tuberculosis (Tb) were reported in 2002 and 12 in 2005, one of them being drug-resistant. This increase in incidence of Tb was attributed to opportunistic infections related to HIV/AIDS. In 2007 there were eight (8) new cases of Tb, three (3) of which were related to HIV/AIDS co-infection. Of the 8 cases, four (4) were imported.

1.1.3. MILLENNIUM DEVELOPMENT GOALS

The strategies to promote and advance the Millennium Development Goals (MDGs) are integrated in the Barbados' *National Strategic Plan, 2005-2025* (NSP). This Plan provides a "blueprint for the realization of Barbados' vision of becoming a fully developed society that is prosperous, socially just and globally competitive by the end of the first quarter of the century."² Despite challenges, Barbados has attained many of the MDGs well in advance of the 2015 deadline. The government is now focused on pursuing the MDG-Plus targets that are much more ambitious, but attainable, than the globally-agreed targets. The MDG-Plus targets represent strategic areas that countries can treat as priorities, as interpreted in the context of their level of development. Table 2 shows the status, government initiatives, and challenges towards achievement of the MDGs by the year 2015.

2 Government of Barbados 2005a, *The National Strategic Plan of Barbados*, Government of Barbados, Bridgetown, Barbados

Table 2. Status at a Glance: Progress towards Achieving the MDGs, Barbados, 2007

Goal	Status	Government Initiatives	Challenges
1. Eradication of Extreme Poverty and Hunger	Non-income poverty has been addressed by providing access to health care, education, water, and sanitation. Little progress in determining the sources of income-inequality and resource poverty has been made.	Poverty eradication program formulated in 1997; Ministry of Social Transformation established in 1999; Country Poverty Assessment scheduled with support from the Caribbean Development Bank.	Several segments of the population remain vulnerable given the current socio-economic environment. Rationalization of the delivery of social services; strengthen evidence-based policy and programming; and strengthen human resource capacity.
2. Achieve Universal Primary Education	Achieved since the 1970's.	Several programs were introduced: Basic Skills Assessment Battery, the Criteria Referenced Test; and a 3-phased Nursery Expansion Program. Major civil works on several primary and secondary schools.	Aging infrastructure; provision of quality early childhood education (ECE); shortage of ECE-trained teachers; and flight of trained teachers attracted by higher pay and perceivably better working conditions overseas.
3. Promote Gender Equality and the Empowerment of Women	All targets achieved. Significant gains made in promoting gender equality; Government ratified the 1979 Convention on the Elimination of All Forms of Discrimination against Women (CEDAW); 17.6% of seats in parliament are held by women.	Bureau of Gender Affairs established in 2000; a Gender Management System ensures that government's policies are gender sensitive; the government is involved in a pilot project sponsored by UNIFEM/Commonwealth Secretariat/IDRC to ensure that budgetary allocations are sensitive to gender.	Strengthen capacity for gender analysis; gender must be considered a cross-cutting issue in the pursuit of all the MDGs and the National Strategic Plan; strengthen evidence-based policy-making and programming; and deepen the understanding of the socialization of men.
4. Reduce Child Mortality	Child mortality rates are below global levels; under 5 mortality rate is currently 12 deaths per 1,000 live births; perinatal conditions and congenital abnormalities are the leading causes of death among children under 1 year old.	Free medical attention in the public sector; free drugs from the Barbados drug Formulary at participating dispensaries for children under 16 years; free dental care up to the age of 18 years; and free eye care services up to the completion of secondary school.	Sustain quality health care provision for children; emphasize prevention of nutrition and lifestyle-related disorders; address socio-cultural attitudes towards substance abuse, particularly alcohol use; and strengthen child protection legislation, social services, and human resource capacity.

Goal	Status	Government Initiatives	Challenges
5. Improve Maternal Health	Maternal mortality is already too low to be reduced by three-quarters. (Maternal mortality rate is 0.9 deaths per 1,000 live births). All births are attended by trained health personnel.	Free antenatal health clinics; free post-natal care at polyclinics; HIV-infected mothers have access to PMTCT programs; new mothers have access to maternity benefits and grants from the contributory National Insurance Scheme (NIS).	To Strengthen evidence-based policy and programming; improve sexual and reproductive health programs; strengthen follow-up services for HIV-infected mothers beyond the perinatal period.
6. Combat HIV/AIDS and Other Diseases	An estimated 1.8% of the population is infected with HIV/AIDS.	A National Strategic Plan, 2007-2012 has been finalized; the government committed US\$50m over a five-year period to the Expanded National Response; a loan for US\$1.5m was secured from the World Bank and a Memorandum of Understanding with the Clinton Foundation to obtain ARVs at reduced rates.	Government endeavors to reach the goal of universal access to prevention, treatment, care and support by 2010.
7. Ensure Environment Sustainability	Integrating vsustainable development principles, policies, and programs.	Sustainable Development Policy signed. Barbados is signatory to the Global Environmental Facility.	Acquiring supportive technologies to decrease reliance on imported fossil fuels; building capacity for utilization and maintenance of technology and infrastructure, among others.
8. Global Partnership for Development	The drive to achieve MDG8 corresponds to: strengthening of civil society and building stronger development partnerships.	The government is very active in regional and international organizations.	There are challenges relating to international trade agreements; access to development aid; funding for SIDS efforts; reduction of public debt; issues In youth unemployment.

Source: Excerpted from the Comprehensive Report on Barbados' Progress towards Achieving the Millennium Development Goals and other Internationally Agreed Development Goals, June 2007.

1.2. DETERMINANTS OF HEALTH

1.2.1. POLITICAL DETERMINANTS

Barbados' economic and social development is grounded in a stable government, democratic freedoms, the advancement of human rights, an independent and fair judicial system, a well-educated and trainable labor force and sound economic management.³ There is no instability or political violence. Within the Caribbean, Barbados has been in the forefront of regional integration and the formation of the CARICOM Single Market and Economy (CSME), as well as the Caribbean Court of Justice.

1.2.2. ECONOMIC DETERMINANTS

The Barbados economy grew at an annual average rate of 3% from 1993 until 2000. Following a short-lived recession in 2001, the growth trend resumed by mid-2002 and by 2006, it was estimated at about 3.7% per annum. In the period 1991 to 1994, per capita income fell below the 1990 level of US \$5,750. However, with sustained economic growth post-1994, per capita income rose from US \$6,000, to US \$7,000, to US \$9,050 and US \$10,000⁴ in 1995, 2000, 2005 and 2007, respectively. (US\$1.00 = BD\$2.00).

Public expenditure per capita increased from US \$2,295.5 in 1990 to US \$3,853.7 by 2000 reaching a record US \$4,090.2 in 2005. Public expenditure as a share of GDP rose marginally from 34.8% in 1990 to 36.5 in 2005. Although public expenditure on health services as a percentage of GDP ranged between 4.6% and 6.5% during the period, the most frequently occurring values for this variable were between 5.1% and 5.6%. This level of public expenditure on health relative to GDP reflects Government's commitment to universal access to primary and secondary health care; provision of pharmaceuticals; and the provision of public health services. Private expenditure on health rose from 34.5% of total expenditure in health in 2000 to 36.5% in 2005. In the same period, out-of-pocket expenditure as a percent of private expenditure rose from 77.3% to 78.6%.

The annual inflation rate measured by the Retail Price Index tended to be stable below 3%, except for 1997 and 2006 when it spiked to 7.7% and 7.3%, respectively. These peaks reflect increases in the international market, particularly of oil, which had an impact on domestic energy prices and ultimately on the costs of all other goods and services.

The labor force increased from 123,900 persons in 1990 to 143,700 at the end of 2007, comprising 74,500 males and 69,200 females. There was a steady decline in the unemployment rate from 24.3% in 1993 to 7.4% at the end of 2007, comprising 6.4% males and 8.5% females. The higher participation rate in the labor force suggests higher utilization of private sector health services, particularly ambulatory services, which are paid for by health insurance providers and out-of-pocket finances.

³ The National Strategic Plan of Barbados 2005-2025.

⁴ Barbados Socio-Economic Data, 2008 Pocket Statistics.

Poverty in Barbados is both complex and multidimensional. The government has defined poverty in terms of “social deprivation” which can include: lack of/inadequate income or capital; lack of/limited access to productive resources; lack of/limited access to social services; increased morbidity/mortality from illness; homelessness; inadequate housing; unsafe environments; social discrimination exclusion; lack of equal opportunities for persons with disabilities; structural barriers to achieving one’s full potential; single income dependency in households; and lack of equal opportunities for vulnerable groups such as persons with disabilities or people living with HIV (PLHA).⁵

The 1996/97 Poverty Assessment Study determined that the national poverty line was US\$2,751.50 per year in that period; no later study has been done. In 2001, the Government created a Ministry of Social Transformation to coordinate the various agencies involved in poverty alleviation and social development. The National Strategic Plan of Barbados 2005-2025 determined that ensuring social justice and eradicating poverty were two strategic directions for tackling poverty. The strategies outlined in the Plan include: promoting economic enfranchisement; eradicating material poverty, marginalization and stigmatization of the poor; clearing slums and promoting urban renewal; assisting with the development of employment opportunities for needy individuals and groups; improving the management of all poverty eradication programs; instituting comprehensive public awareness and educational campaigns to facilitate a better understanding of poverty issues; and creating programs to move persons from welfare to work.

1.2.3. SOCIAL DETERMINANTS

According to the United Nations Development Report, the 2005 Human Development Index (HDI) for Barbados was 0.892, which gives it a rank of 31st out of 177 countries with data.⁶ The country ranked 27th, 31st, and 29th in 1995, 2001, and 2004, respectively. The HDI provides a composite measure of three dimensions of human development: living a long and healthy life, being educated, and having a decent standard of living.

Ninety-nine percent of all dwellings had connections to potable water supplies and sewage and excreta disposal systems. The literacy rate of Barbadians was estimated at 97.7% in 2003.

1.2.4. ENVIRONMENTAL DETERMINANTS

The legal responsibility for environmental protection and management is spread over a number of government agencies including the Ministry of Health, the Ministry of the Environment, and the Town and Country Development Planning Office. The Environmental Protection Department of the Ministry of the Environment is responsible for monitoring drinking water quality; near-shore water quality for sea bathing and other recreational activities; air and noise pollution; marine pollution control; and monitoring the disposal of hazardous and solid wastes.

5 Comprehensive report to inform the presentation by the government of Barbados to the Annual Ministerial Review of the United Nations Economic and Social Council on Barbados’ progress towards achieving the MDGs and other internationally-agreed development goals, June 2007.

6 Human Development Report 2007/2008 – Country Fact Sheets - Barbados.

2. FUNCTIONS OF THE HEALTH SYSTEM

2.1. STEERING ROLE

The steering role of the Ministry of Health is articulated in the Health Services Act Cap. 44 of 1969 of the Laws of Barbados. The Act, states, *inter alia*, that the Minister of Health shall be responsible for the administration of this Act, and, without limiting the generality of the foregoing, its functions shall include:

- a) The prevention, treatment, limitation and suppression of disease, including the conduct of investigations and enquiries in respect thereof;
- b) The publishing of reports, information and advice concerning public health, including advice to the Government and the education of the public in the preservation of health;
- c) The abatement of nuisances and the removal or correction of any condition that may be injurious to the public health;
- d) The control of food and drugs in the interest of the public health; the seizure and destruction of food and drugs that do not comply with this Act or any other regulations; and, the protection of the public from fraud, counterfeit or deception;
- e) The acceptance and administration of gifts of money or property from individuals or organizations donated for any unit of the health services administered under this Act.⁷

The Government's vision for a healthy people is to empower individuals, communities, and organizations to pursue health and wellness within a health system that guarantees the equitable provision of quality health care. This, in turn, will fully contribute to Barbados' sustained economic, cultural, social, and environmental development.⁸

The Minister of Health represents the government of Barbados in many regional and international health-related organizations. Chief among these are the Caribbean Community Secretariat (CARICOM), the Pan American Health Organization (PAHO), and the World Health Organization (WHO).

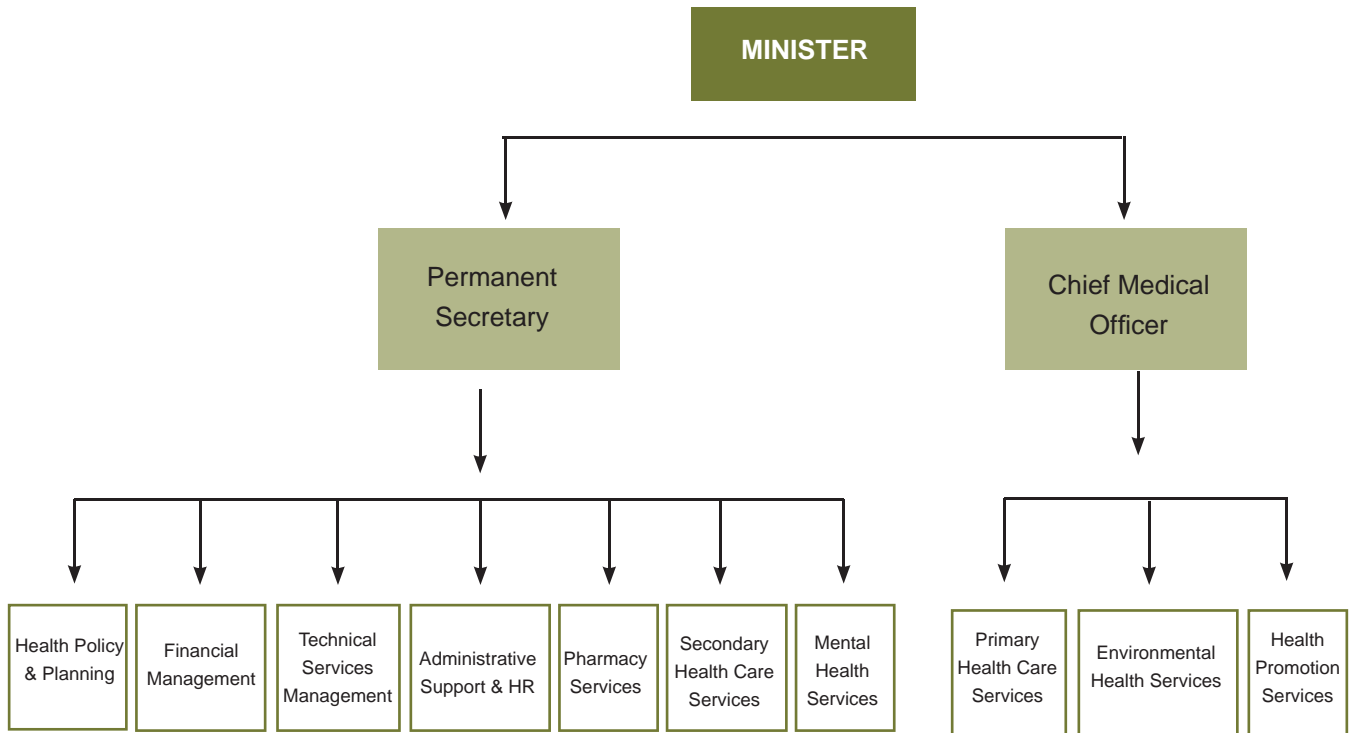
2.1.1. MAPPING OF THE HEALTH AUTHORITY

The Ministry of Health (MOH) is the executing agency for the delivery of health care in the public sector. The Ministry is headed by a Minister who has overall responsibility for defining policies, strategic direction, regulations, norms and standards as well as political direction. Decision-making is centralized and there are no local health authorities. The Permanent Secretary (PS) is the administrative head, functioning as the chief executive and accounting officer. The PS is responsible for the proper functioning of all sections of the MOH. The Chief Medical Officer is responsible for all technical and professional functions of the public health service. Figure 2 shows the institutional structure of the Ministry of Health.

⁷ The Laws of Barbados, Health Services Act, Cap. 44, 1969.

⁸ Barbados Strategic Plan for Health - 2002-2012.

Figure 2. Institutional Structure of the Ministry of Health, Barbados 2008



Source: Planning and Research Unit, Ministry of Health

2.1.2. CONDUCT/LEAD

The Ministry of Health, with full stakeholder participation, developed a Strategic Plan for Health 2002-2012 to reform the health system and scale-up investments in health. The vision of the Ministry of Health is to empower individuals, communities, and organizations in the pursuit of health and wellness in a health system that guarantees the equitable provision of quality health care, thus contributing fully to the continued economic, cultural, social, and environmental development of Barbados. The Plan's ten priority areas reflect an integrated approach to securing the national vision for health and wellness in a system that ensures equity, quality, efficiency, effectiveness, and sustainability. The areas are: 1) health systems development; 2) strengthening institutional health services at QEH; 3) family health; 4) food, nutrition and physical activity; 5) chronic non-communicable diseases; 6) HIV/AIDS; 7) communicable diseases; 8) mental health and substance abuse; 9) health and the environment; and 10) human resource management.

The Planning and Research Unit in the MOH is responsible for translating the Plan into programs and effective investments in health outcomes. The Unit is also responsible for supporting, monitoring, and evaluating the implementation of the Plan. This is accomplished through the provision of technical support to the MOH, the formulation of strategies and action plans, and the evaluation of health care programs.

The Ministry of Health has been faced with a weak health information system and is currently in the process of improving this aspect of the health system. Enhanced decision-making, improved data collection, analysis and reporting, are all essential to its development. To this end, the government of Barbados has secured grant funds from the European Commission to develop a modern health information system involving both public and private sectors. The Government Information Service allows the Barbadian public to be completely aware of what services and products are available to them.

The government is responsible for the provision of primary, secondary, and tertiary care to citizens and residents of Barbados as stated in the Health Services Act. Services are free at the point of delivery across the board with no regards to socio-economic status, geographic location, or ethnic group. Primary care is an essential component of health services provided by the Ministry of Health. Primary care is mainly provided through the 8 polyclinics and the Queen Elizabeth Hospital. The Ministry of Health has established a task force to review primary care strategies in Barbados. The Health Sector Reform program and the implementation of a purchaser-provider split will allow the Ministry to strengthen its monitoring and evaluation role and thus fully measure the impact of policies.

This year, the government has begun public consultations to initiate a reform of the Freedom of Information Act. Currently, the Ministry of Health is collaborating with the Data Processing Department of the Ministry of Finance to publish national health information on the government's web portal.

2.1.3. REGULATION

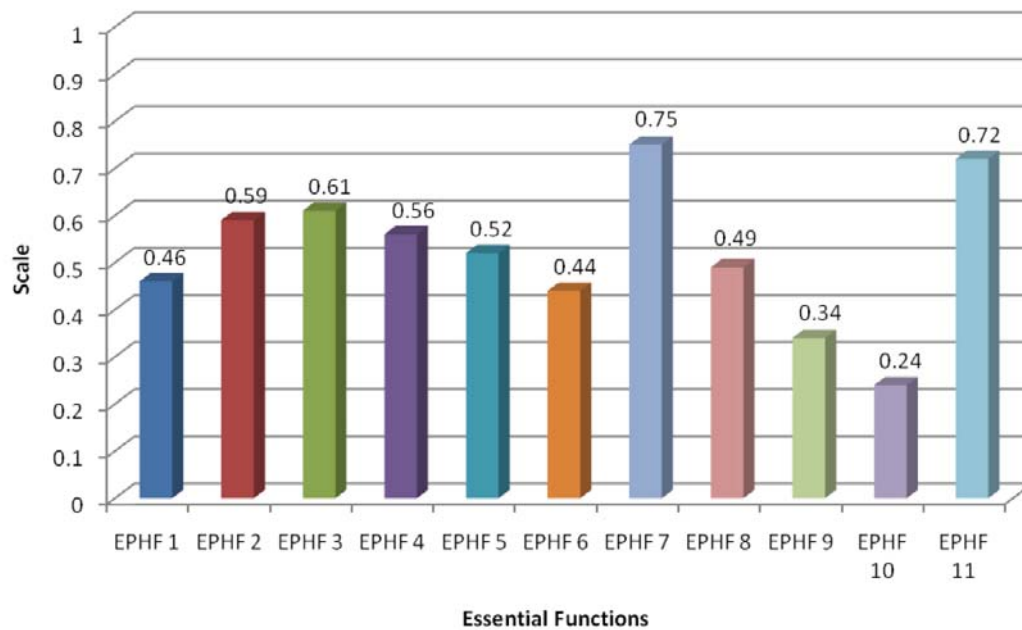
The 1969 Health Services Act is the legal framework that assigns the health authority the regulatory function for public health matters. Various regulations relate to surveillance and investigation of notifiable diseases; the safety and effectiveness of drugs; the operation of pharmacies and pharmaceutical manufacturing plants; periodic inspection of health services facilities, laboratories, and pharmacies; regulation and monitoring of the operations of private hospitals, nursing and senior citizens' homes.

The professional practice of doctors, nurses, pharmacists, dentists and paramedical professionals is regulated by Medical, Nursing, Pharmacy, Dental and Paramedical Councils, respectively. In 1997, the Paramedical Professions Act was amended to include other professional areas such as dietetics, nutrition, osteopathy, cardiac technology, speech language pathology, counselling and educational psychology, acupuncture, reflexology and nuclear medicine technology. In 1999, legislation was introduced to strengthen control of imported foods. There are regulations for oversight in the Ministry of Health; however, sanctions are often not enforced for rule infringement.

2.1.4. EVALUATION OF THE ESSENTIAL PUBLIC HEALTH FUNCTIONS (EPHF)

In 2002, an evaluation of the Essential Public Health Functions (EPHF) was conducted to assess the strengths and weaknesses of the public health system. Barbados, being a small country requires a smaller structured public health system than envisioned in the EPHF framework.

Figure 3. Essential Public Health Functions – Results of Measurements, Barbados, 2002



Source: Performance Measurements of Essential Public Health Functions at National Level in Barbados.

As can be seen from Figure 3, EPHF 7 (Evaluation and Promotion of Equitable Access to Necessary Health Services) had the highest performance (75%). This implied that the Ministry of Health had the necessary institutional capacity in terms of processes, capacity and decentralized competency to adequately fulfil this function. Notwithstanding, there are some challenges, such as: 1) a lack of confidence in the public primary care services that limits access to care; and 2) the long waiting lists at QEH for complex medical procedures. EPHF 11 (Reducing the impact of Emergencies and Disasters on Health (prevention, mitigation, preparedness, response and rehabilitation) scored the second highest (72%). The Ministry of Health gives this area much attention because Barbados is prone to natural disasters, hurricanes in particular. The Ministry's efforts are complemented by the Department of Emergency Management which coordinates, promotes and maintains a comprehensive National Disaster Program.

EPHF 10 (Research in Public Health) obtained the lowest score (24%). This may have been due to the fact that in 2002 there was no formal agency in charge of developing a public health research agenda. However, as of 2002, several long-term studies were commissioned in collaboration with international agencies. These include the Barbados Eye Study (Wu, Nemesure, and Leske), which began in 1994 to determine the prevalence of eye diseases (open angle glaucoma, cataract, diabetic eye disease and age-related macular degeneration) among black Barbadians. The results were published in 2003. Barbados was chosen because its population is 93% black and because information on the long-term risk of age-related macular degeneration (AMD) in a black population was previously non-existent.

The Barbados National Cancer Study, which started in 2002, is examining the family connections and at-risk factors affecting cancers of the prostate and breast in the Barbadian population. In 2007 the Behavioural Risk Factor Survey was conducted. Also in 2007, a Chronic non-Communicable Disease (CNCD) registry was established in collaboration with the University of the West Indies. The Ministry of Health has allocated funds in its 2008/2009 budget for a specific study of chronic diseases in Barbados. EPHF 9 (Quality Assurance in Personal and Population-Based Health Services) scored 34%. To date, there is no policy on quality assurance but, in 2008, a Continuous Quality Improvement (CQI) policy was drafted and is expected to be implemented in the first quarter of 2009.

The most significant finding from the report on measuring the performance of the EPHF in Barbados was that the Ministry of Health had no formal processes to evaluate the performance of the health sector. It was also noted that, although the Ministry of Health had the institutional capacity to fulfil certain of its functions, the enabling processes or activities were not being implemented. The results of this assessment informed aspects of the Strategic Plan for Health, 2002-2012.

2.2. FINANCING AND ASSURANCE

2.2.1. FINANCING

Revenue for the public health care services comes from two primary sources: 1) public financing through taxation; and 2) private financing through health insurance, fee-for-service, and other types of out-of-pocket expenditure, such as, pooled insurance funds via employer-employee contributions. The Ministry of Health receives its funding through annual provisions voted by parliament. The public health services are organized to facilitate universal accessibility and, in many cases, free at the point of service.

In the periods 1990-1994, 1995-1999, and 2000-2005 the national budget on health was reported as: US\$79,789,750 (12%⁹), US\$89,816,250 (13%), and US\$120,076,750 (14%), respectively. Notably, when these amounts were combined with estimates of private health expenditure, total health spending as a percentage of GDP, went from a consistent 6%-7% in the years 1999 to 2001 to 15% in the period 2002-2004. Analysis of the figures showed that the spike was due primarily to the growth of health insurance schemes and the role of private health care.

It is noteworthy that, initially, the public-private expenditure mix in the years 1999, 2000, and 2001 was recorded at 63%, 64% and 66%, respectively in favour of public contribution to health expenditure. In these years, the government was the major investor in the health sector but there is now a move toward greater private sector coverage and involvement. In 2002, the government contributed the same nominal amount to

9 Brackets show percentage of national budget on health in relation to total budget.

the sector, but the public-private mix changed and the private sector contributed 69% and 70%¹⁰. This trend has continued, suggesting that the private health sector has grown considerably with concomitant growth in the total expenditure in the health sector.

Over the period 1997 to 2003, the recurrent expenditure on health fluctuated in keeping with the total recurrent government expenditure which depends largely on the rate of economic growth and the efficiency of taxation. Notably, the per capita income for the period averaged US\$459.00 with the period 1999 to 2000 and 2000 to 2001 falling above the average with US\$532.1 and US\$520.4, respectively.

There are no national funding pools earmarked for specific activities in the health sector. However, international agencies, including non-governmental organizations play an important role in financing the health sector, particularly, in the areas of health education and promotion related with HIV/AIDS

Table 4. Recurrent Expenditure on Health with Percentage of Total Recurrent Government Expenditure, Barbados, 1997-2003

Year	Total Recurrent Government Expenditure US (\$)	Recurrent Government Expenditure on Health		
		Amount (US \$)	% of Total Expenditure	Per Capita US (\$)
1997-1998	852,238,097	113,209,128	13	426.8
1998-1999	909,402,861	89,446,127	10	337.2
1999-2000	964,276,773	142,285,039	15	532.1
2000-2001	1,021,399,916	139,862,524	14	520.4
2001-2002	858,849,291	124,953,152	15	462.1
2002-2003	922,795,801	128,811,876	14	474.7

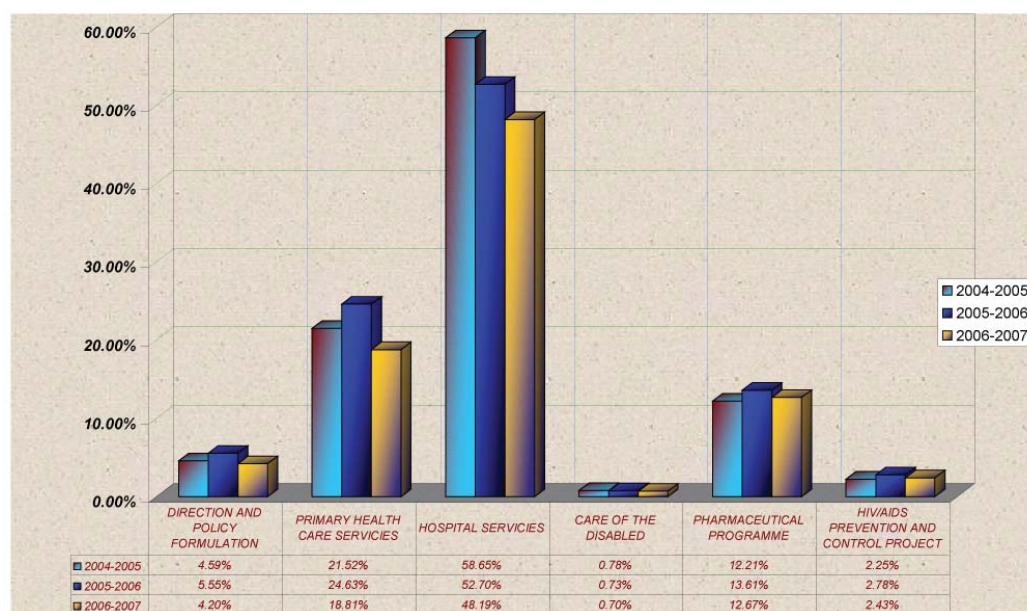
Source: Chief Medical Officer's Report 2002-2003.

Note: These are financial years which start 1 April of each year and end 31 March of the following year.

The pattern of the Ministry's funding for different activities showed that the most outlays of public health funds corresponded to the provision of hospital-based services. It also underlined the small percentage of funds destined to primary health care services. (Figure 4). This suggests that the trend is to focus mainly on secondary and tertiary services (institutionalized care) rather than on prevention, treatment, and management of illnesses (primary health care).

10 This was calculated by multiplying personal consumption on GDP by the retail price index weight for Medical and Personal care.

Figure 4. Ministry of Health Expenditure by program and activities, Barbados, 2004-2007



Source: Planning and Research Unit, Ministry of Health.

2.2.2. ASSURANCE

Legal Framework

The 1969 Health Services Act of Barbados, Cap. 44 and the Drug Services Act 1980 provide the framework to ensure that the population receives universal health care coverage and access to quality drugs at affordable prices regardless of their socio-economic circumstances. Public universal health care coverage is guaranteed through the government's tax revenue system. However, persons can choose to access health care services through the private sector and private health insurance schemes. In some cases, the client may pay a pre-determined percentage at the time of the visit or pay out-of-pocket at the point of service and submit a claim to the health insurance provider for reimbursement. It is estimated that approximately 25% of the population is covered by private health insurance.

The Health Services Act provides for legal sanctions which are enshrined in the regulations of the Act. While both the Health Services and the Drug Services Acts permit the government to prosecute anyone for non-compliance with their provisions, prosecution for claims of impropriety is not actively pursued.

Benefits and population covered

Since 2000, the Ministry of Health contracted services under its Alternative Care of the Elderly Program. This exemplifies a public-private sector partnership that places elderly patients into nursing/senior homes thereby

reducing the waiting list at the geriatric institution. Through this arrangement, elderly patients who no longer require hospital-based care as well as those in the community are placed in senior citizens' facilities. The Ministry of Health pays the nursing/senior homes a predetermined rate for each person accepted under this program.

In 2007, the government entered into a contract with the Heart and Stroke Foundation of Barbados to provide cardiac rehabilitation services for persons who have suffered a cardiac event or stroke. In 2007, 3,198 children were registered with the Children's Development Center's services which include psychological assessment, physiotherapy, and speech and occupational therapies. There are publicly-funded programs for early diagnostic assessment and treatment of children who have mental and physical disabilities. The government has contractual agreements with non-governmental agencies to provide drug rehabilitation services for persons who abuse drugs and other substances.

2.3. SERVICE PROVISION

The Ministry of Health has undergone various analyses of the strengths and weaknesses of the national health care delivery system. The reviews confirmed that the country is undergoing a demographic and epidemiological transition; it also reinforced the need for an overarching time-bound reform of the public health sector. The Strategic Plan for Health 2002-2012 is the framework for the reform and it is geared to improve the health system by standardizing action plans and management models in public sector health care institutions. The Program Budget Document is the tool to reform the programming and budgeting processes. Reorientation of this aspect of the sector should reduce duplication and fragmentation of services and ensure principles of equity, quality, and financial sustainability of interventions and investments. The Plan also seeks to establish basic health care standards at the extra- and intra-hospital levels.

2.3.1. SUPPLY AND DEMAND FOR HEALTH SERVICES

Comprehensive health care is provided through a network of primary, acute, secondary and tertiary care institutions that ensures appropriate care to every member of the family. This broad approach expands the traditional focus from maternal and child health to family health within the primary health care paradigm.

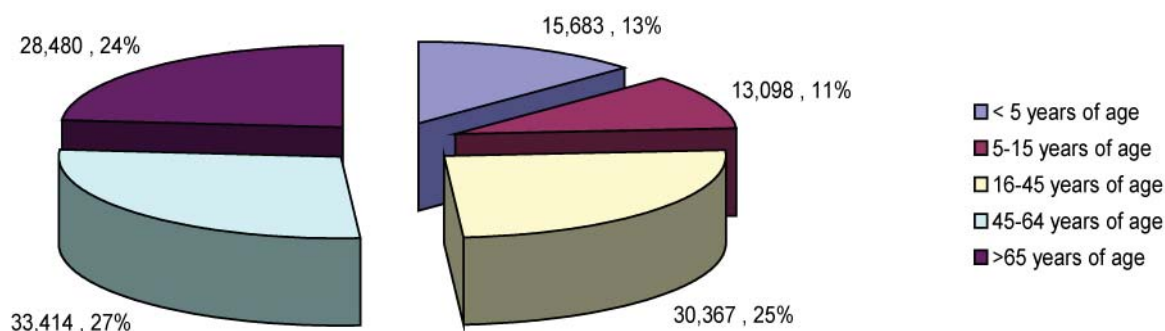
Primary health care, the first level of care, is delivered through eight (8) polyclinics which are located within easy access to their catchment areas. Polyclinics are fully staffed and equipped to deliver a wide range of health care services on a daily basis to the general population. Public health services include: maternal and child health; adolescent health; men's health; community mental health; dental health; nutrition; general practice clinics; and environmental health services such as food hygiene, mosquito and rodent control. There is a referral system between clinics, hospitals, the private sector, and other support services.

The Barbados Drug Service, a WHO Collaborating Centre, manages the provision of essential drugs and pharmaceutical services in the country, ensuring that Barbadians receive affordable quality drugs and pharmaceuticals.

The private health care market continued to expand and currently, there are more than 100 general practitioners and consultants. There are 5 clinical laboratories in the private sector and several radiological and diagnostic service providers. The private BayView Hospital provides 30 acute-care beds while 59 private nursing and senior citizens' homes provide long-term care for the elderly.

During 2005, there were 121,042 visits to primary care facilities and the majority of clients were females who outranked males by 26%. Figure 5 shows that the majority of persons who utilized the primary health care institutions were between the ages of 45-64 years old, followed by those between the ages of 16-45 years, and the elderly patients (over 65 years of age).

Figure 5: Utilization of Primary Health Care Services by age group, Barbados, 2005



Source: Planning and Research Unit, Ministry of Health.

In the public health sector, higher complexity services of health care are delivered mainly through publicly-funded 554-bed Queen Elizabeth Hospital (QEH) that provides acute, secondary, and tertiary care and through the 600-bed Psychiatric Hospital. In addition, two facilities provide renal dialysis and there is a fertility centre which offers a full range of fertility treatments.

2.3.2. HUMAN RESOURCES DEVELOPMENT

Human Resources Training

The main entities that train health professionals include: The Barbados Community College and the University of the West Indies, Mona (Jamaica), St. Augustine (Trinidad and Tobago), and Cave Hill (Barbados) campuses. The Ministry has also worked with the University of the West Indies and the European Development Fund (EDF) technical assistance team to develop a diploma in health services management. This course of study will allow middle managers to gain skills to function effectively in the broad health services context. Health sector personnel also participated in international, regional and local training workshops to strengthen competencies and acquire new sets of skills.

Supply and Distribution of Human Resources

The health sector has been plagued with shortages in human resources, especially in the medical, nursing, physical therapy, occupational therapy, and other allied health disciplines. The shortage has been exacerbated by migration of health professionals to the developed countries.¹¹ The Principal Personnel Officer in the Ministry of Health heads the training committee that conducts annual assessments of the human resource complement in the public sector. In 2008, the Ministry of Health began development of a Human Resource (HR) Strategy for the management and mobilization of human capital. The onus is being placed on the application of this strategy to manage the workforce in health, especially to reduce the shortages which exist in areas such as nursing, podiatry, and occupational therapy.

One of the goals of this strategy is to accord high priority to performance-based management through the Performance Review and Development System (PRDS) which should be implemented circa 2009. This approach will address issues related to training of: top-level management, medium and low-level managers, and supervisors. The Ministry of Health has contended with the impact of the national shortage of nurses by: 1) advising the Barbados Community College to increase the annual intake of student nurses from 90 to 120; 2) amending the regulations of the General Nursing Council by lowering the entry age from 18 years to 16 years; 3) implementing flexible shift allowance; 4) retaining retired nurses); and 5) in the short term, recruiting nurses from the Caribbean region, Africa, and South-east Asia.

In 2009, the Pan American Health Organization assisted the MOH in developing a minimal dataset of human resources in the health sector including health professionals registered to provide health services in Barbados. The total number of workers in the health sector, by profession, was last compiled in 2003. (Table 5).

11 The Chief Medical Officer's Report 2002-2003.

Table 5. Health Personnel with Population ratios, Barbados, 1995, 2000, and 2005

Category	Total 1995	Pop. to each	Total 2000	Pop. To each	Total 2005	Pop. To each
Physicians	358	741	325	810	489	5583
Dentists	50	5,303	46	5,843	83	32,894
Hospital Administrators	6	44,196	6	44,799	6	45,503
Sanitary Engineers	2	132,586	2	134,396	2	118,703
Social workers	8	33,146	9	29,866	9	30,271
Nutritionists/dieticians	10	26,517	10	26,879	10	27,244
Registered Nurses	891	298	922	292	900	30,340
Nursing Assistants	469	565	465	578	411	66,427
Radiographers	30	8,839	14	19,199	12	22,751
Laboratory Technologists/Technicians	49	5,411	50	5,376	2	13,651
Pharmacists/dispensers	169	1,569	190	1,415	251	10,877
Physiotherapists	15	17,678	28	9,599	22	12,410
Dental auxiliaries/Nurses	11	24,106	11	24,436	11	24,819
Public Env. health inspectors	94	2,821	100	2,688	100	27,301
Public Env. health assistants	81	3,274	92	2,922	92	29,670
Statistics and Medical Records personnel	ND	ND	71	3,786	74	36,890

ND: No data.

Source: Annual Report of the Chief Medical Officer, 2002-2003, Ministry of Health Barbados, March 2006.

2.3.3. MEDICINES AND OTHER HEALTH PRODUCTS

Barbados does not have an essential medicines observatory. The management and distribution of pharmaceutical products are carried out by the Barbados Drug Service (BDS) which was established in 1980. Its operations are governed by the Drug Service Act and the Financial Administration and Audit (Drug Service) Rules, 1980. It performs the vital role of providing quality pharmaceuticals drugs to the residents of Barbados at a reasonable cost. The Service's programs are designed to encourage equity and allow patients who use either the private or public sector to receive the same quality pharmaceutical products.

Under the Special Benefit Service (SBS) of the Barbados Drugs Service, drugs and related items on the Barbados National Drug Formulary are provided free of cost at point of service to the following beneficiaries:

a) persons 65 years and over; b) children under 16 years of age; and c) persons who receive prescribed Formulary Drugs for the treatment of hypertension, diabetes, cancer, asthma and/or epilepsy. Although there is no defined package of public health benefits, the population has access to a wide range of health services in the public sector domain. The government reimburses private pharmacies that dispense drugs to persons covered under the SBS. The drugs and related items supplied to the Barbados Defence Force, Her Majesty's Prison, and some first-aid supplies to Government departments, are paid for by the respective departments.

Local pharmaceutical distributors are fully involved in the supply process, and direct overseas purchases are seldom made. The local distributors are allowed a 32% trading mark-up on cost, insurance and freight. They are responsible for importing, warehousing, and distributing the drugs and related items supplied under the Barbados Drug Service program. Specially-Authorized Drugs (SADs) are not listed in the Barbados National Drug Formulary but are made available to a physician for a specific patient and for a specific period of time. They are mainly used to treat the critically ill or those who have been seen in the special departments at the QEH. In accordance with the Therapeutic Substances Act 1949, licences were issued to local pharmaceutical companies which allowed them to import antibiotics and sulphonamides into the country. In accordance with Section 40 and 41 of the Financial Administration and Audit (Drug Service) Rules, 1980, the Drug Inspectorate processed all applications made by manufacturers to be listed as approved suppliers of drugs and related items.

The Barbados National Drug Formulary provides a list of formulary drugs for use both in public and private sectors. It is given free of cost to every pharmacist, physician, senior nurse and medical, pharmacy and nursing student. It is reviewed periodically by the formulary committee appointed by the Minister of Health under the Drug Service Act, CAP 382D. Distribution of the formulary is extended outside of Barbados to Permanent Secretaries and Chief Pharmacists in the Eastern Caribbean. Prices of pharmaceuticals are determined by negotiations between the private sector and the Government of Barbados. Pharmacists must be present within all pharmacies when open for business.

Efforts are made to ensure that drugs imported and sold in Barbados are manufactured in accordance with the standards of the United States Pharmacopoeia and the British Pharmacopoeia. During the period under review, 74 private pharmacies were registered in accordance with the provisions of the Pharmacy Act. Inspections were also carried out at the 16 public sector pharmacies: 14 Barbados Drug Service pharmacies, and the pharmacies at the Queen Elizabeth Hospital and the Psychiatric Hospital. Routine inspections were also undertaken at the one pharmaceutical manufacturing plant operating in the country - Carlisle Laboratories Limited. This inspection is done primarily to ensure that the drugs manufactured and the manufacturing process, are in accordance with the World Health Organization's Good Manufacturing Practice techniques. New generic drugs are sent to regional and international labs for quality testing.

2.3.4. EQUIPMENT & TECHNOLOGY

Eleven clinical laboratories are spread across the private and public sector, offering a range of services. Of these, six are public, including the one located at QEH. The only blood bank in Barbados is located at the QEH. Similarly, the single MRI machine in Barbados is located in the private sector. There are 2.1 beds per 1,000 population at the QEH. The 1995 Study on Barbados Bed Needs had recommended that 504 acute care

beds were adequate for the population needs until 2010.¹² This finding was confirmed by the Barbados Health Sector Rationalisation Study, and more recently by the Report on the Master Plan for the Rationalization and Redevelopment of the QEH.¹³

In 2007, the Ministry, with collaboration from the Technical Assistance Team from the 9th EDF Program, attempted to prepare an inventory of the equipment used by the various public health institutions. However, this proved difficult, especially for the Queen Elizabeth Hospital. Currently, there is no predefined percentage of an institution's budget allocation to maintenance. The Ministry of Health is aware of the importance of maintenance to ensure a fully functional and effective health service. To this end, within the last two years, the Ministry of Health has revamped its budget estimates process to favor a better estimation of the proportion of an institution's budget allocated to maintenance.

Since 2008, the Ministry of Health has proposed a reorganisation of its Technical Management Services¹⁴ to include the key skills and competencies necessary to conduct planned preventive maintenance; to streamline procurement mechanisms; and assessment of technology.

2.3.5. QUALITY ASSURANCE

The Ministry of Health has adopted Continuous Quality Improvement (CQI) as its healthcare quality approach. CQI initiatives were introduced as early as 2000; however, an overarching policy was not developed.

To drive the quality assurance efforts, the Ministry has proposed the development of a National Quality Council, whose core business will be to promote patient safety and improve patient care throughout the health sector. The proposed staff complement will include a National Quality Improvement Coordinator and quality officers. These officers will work through the National Quality Council to prepare a plan of action for quality improvement and work with individual institutions to develop standards, policies and protocols, as well as investigate customer complaints. The officers will also advise the management of their respective institutions on the status of the implementation and evaluation of patient safety and quality management processes.

Private-sector laboratories, nursing homes, and hospitals are inspected and licensed annually by the Ministry of Health. There are defined standards of care for the management of diabetes and asthma. BayView Hospital and the QEH have infection control committees and, in 2007, the latter introduced a risk-management program.

There are no local accreditation commissions. However, based on Joint Commission International, one private health care facility is accredited. Notably, local and international investors have had discussions with the government about developing a health tourism industry. This venture will require healthcare institutions and professionals to have international accreditation so that Barbados can be competitive in international health markets.

12 Barbados Bed Needs and the Policy Option for the St. Joseph Hospital, 1995.

13 Report on the Master Plan for the Rationalization and Redevelopment of the QEH, 2006.

14 Technical Management Services Unit is responsible for all the planning and supervision of the maintenance for all buildings, vehicles, plant, equipment and instruments of the Ministry except, QEH and the Psychiatric Hospital.

3. MONITORING HEALTH SYSTEM CHANGE/REFORM

3.1. IMPACT ON HEALTH SYSTEM FUNCTIONS

In the 1990's, the focus of Barbados Health System was in the delivery of health care services through the strengthening of QEH's capacity and the provision of mental health care, rehabilitation services and long term care. The earliest references to the concept of health sector reform appeared in the 1995 Report entitled Barbados Health Sector Overview.¹⁵ It was evident that the system did not respond to the prevailing health challenges associated with an increasing proportion of older persons, an increase in the prevalence of chronic diseases, escalating health care costs in the face of limited financial resources, and population demands for quantity and quality care.

The Barbados Health Sector Overview also motivated the re-drafting of the terms of reference for the Barbados Health Sector Rationalization Study, which was funded by the Inter American Development Bank (IADB).¹⁶ The terms of reference suggested that health sector reform and health sector rationalization were both synonymous and defined rationalization as "the adoption of government policies that promote improvements in the health care system, specifically with respect to quality of care, efficiency, equity, cost containment, financial sustainability and public/private sector collaboration." The unpublished Phase 1 Report of the Barbados Health Sector Rationalization Study (1995) was a diagnostic assessment of the health sector. These findings were critical of the Ministry's performance which gave dominance to the provision of health care services rather than to its steering role.

In 1997, the Ministry of Health was challenged to advance the Health Sector Rationalization Study beyond the phase 1 diagnostic assessment to subsequent phases. This approach would have identified options for reforming the system and, eventually, inform the design of long-term strategies. However, no further action was taken until 2002 when the Ministry of Health introduced and adopted the guiding principles for health sector reform with the formulation of the Barbados Strategic Plan for Health 2002–2012.

In 1998, the Commission of Inquiry into the operations of the QEH proposed that the Ministry of Health should relinquish managerial control of the QEH to a board of management. In 2002, the government acted on this recommendation and introduced the QEH Board Act for parliamentary approval. This process paved the way for the transition of the QEH from a department of the Ministry of Health to an autonomous entity accountable to the Board for its day-to-day operations. There is no service level agreement between the Ministry and the QEH.

15 Bitran R. C.; March 1995, Barbados Health Sector Overview.

16 Terms of Reference for the Barbados Health Sector Rationalization Study, 1995.

Barbados, being a signatory to the Caribbean Cooperation in Health (CCH-II), not only adopted the joint framework for health sector development, but expanded it by establishing ten priority areas for action within the Strategic Plan. These priorities supported the philosophy of “health care for all,” in the context of health sector reform. The priority areas were: health systems development; strengthening Institutional health services at QEH; family health services; food, nutrition and physical activity; chronic non-communicable diseases; HIV/AIDS; communicable diseases; mental health; health and the environment; and human resource development.

One of these priority areas, health systems development, addresses financing health systems, quality assurance, information systems, maintenance and assessment of technology, pharmaceutical management, and disaster management. The strategies in this priority area suggest an orientation by the Ministry of Health to redefine its stewardship role over the health sector, specifically to setting and leading the health policy agenda, outsourcing services, monitoring and evaluating service delivery and setting quality standards. However, to date, there are no evaluations on the systems performance

In 2004, the Cabinet gave approval for Barbados to access grant funds to the value of US \$13.1M (€10.5M) from the 9th EDF as budgetary support in a four-year Sector Wide Programme (SWAp) for the Barbados Health Sector Program. This program included a three-year technical assistance component which started in November 2005. A Steering Committee, which is chaired by the Permanent Secretary of the Ministry of Health, includes representatives from relevant ministries, professional bodies, and civil society. The Committee is responsible for developing sector policy dialogue and advice, sector performance monitoring and coordination.

The Technical Assistance Team of the 9th EDF program proposed the modernization of the health care delivery system. Their inception report recommended that the Ministry should focus on five key areas: reorganizing and developing the role and capacity of the MOH; linking the planning process to budgeting and financial management; strengthening family health services through home and community-based care and health promotion strategies; developing high impact strategies for chronic non-communicable diseases; and refocusing the role and functions of the QEH. The Ministry concurred that these areas supported the fundamental structural change required to modernize the health system and ensure its sustainability as articulated in the goal for the development of the health systems. It was also recommended that the Ministry should adopt the purchaser-provider split concept within a wider framework of evidence-based commissioning of health services. This approach would improve the performance management of its institutions and strengthen the Ministry’s steering role. Evidence-based commissioning would facilitate autonomous and decentralized management practices among the Ministry’s health care institutions, moving them from passive and input-based management to output-based management principles.

In Barbados, the concept of commissioning health services was not new, having been applied on a very limited scale within the private sector, for example, in the case of the outsourcing of dialysis services by QEH; provision of pharmaceuticals to the population under the Special Benefit Service by the Barbados Drug Service; geriatric services under the Alternative Care of the Elderly Program; and, the provision of residential-treatment services for persons with drug abuse problems. Since sector-wide introduction of the commissioning of health services constituted a fundamental policy shift, the Ministry requested the approval of the Cabinet. In 2006, the Cabinet agreed, inter-alia, that commissioning should be accepted in principle and introduced incrementally as part of the health sector reform strategy.

It was also determined that, in addition to service contracts, the Service Level Agreement (SLA) would be the major instrument to be used by the Ministry and its service providers in the commissioning of health services. The essential elements of the SLA include: what services to provide; at what cost; at what quality; and at what price. To achieve this level of performance in the public health sector institutions, a number of prerequisites such as the development of evidence-based quality standards; introduction of cost accounting methodology to establish unit costs of services; training middle and senior managers; and developing performance standards are now being addressed by the Ministry. In addition, a number of Public Sector Reform initiatives currently being undertaken by the government, include: introduction of accrual accounting, multi-year budgeting, the Performance Review Development System of performance management, and the Program to Strengthen the Capacity of Government to Manage for Results (PRODEV) system of efficiency management have provided the context and framework for this aspect of the health sector reform.

3.2. IMPACT ON THE GUIDING PRINCIPLES OF HEALTH SECTOR REFORM

3.2.1. EQUITY

Coverage

The only gap in coverage relates to the inaccessibility of specialist services at QEH when clients experience long waiting times for certain services. A gap existed for cardiac rehabilitation services which were only available in the private sector. However, as of 2006, the government contracted the relevant services through the Heart and Stroke Foundation.

Distribution of Resources

Public expenditure on health services between 1990 and 2007 has fluctuated between 11% and 14% of the national budget. Since 1999, per capita public expenditure on health rose steadily from US \$371 to \$467 by 2004.

In 2000, there were 12 physicians, 37 nurses, and 2 dentists per 10,000 inhabitants. The number of physicians in the public sector increased from 319 during the early 1990s to 386 by 2003. Between 1999 and 2003, the number of nurses in the public sector declined by approximately 17% due to emigration.

There are 2.1 beds per 1,000 population at the QEH. The 1995 Study on Barbados Bed Needs had recommended that 504 acute care beds were adequate for the population needs until 2010.¹⁷ This finding was confirmed by the Barbados Health Sector Rationalisation Study, and more recently by the Report on the Master Plan for the Rationalization and Redevelopment of the QEH.¹⁸ Currently, the critical issue facing Barbados relates to the demands placed on acute care beds, particularly, persons with long-term care needs. In the medium term, government proposes to invest in alternative provision for these persons thereby allowing appropriate utilization of acute care beds.

Access

The Ministry's philosophy with respect to health care guarantees Barbadians and residents access to primary and a wide range of secondary care services. Since 1990, the changing epidemiological and socio-economic profiles led to an increase in the demand for services such as for nursing and/or residential care for persons 65 years and older who are unable to take care of themselves at home; treatment services for substance abuse victims; and cardiac rehabilitation services for persons who may have had a heart attack, or present with the risk factors for stroke or heart attack. The provision of these services in the public sector is part of a pro-poor strategy.

A concern raised during the Commission of Inquiry into the Queen Elizabeth Hospital in 1997, and in subsequent radio call-in programs and other fora relates to the long wait for care in the Accident and Emergency Department (A & E) of the QEH, as well as for specialized care, including elective surgery. Measures implemented to address waiting times for non-urgent care at the A & E of the QEH include the Fast-Track Service at Winston Scott Polyclinic, which is a general practice service and extension of opening hours in two polyclinics, from 8:30 am until 8:00 pm. In 2000, entrepreneurs established two private sector clinics to provide emergency and non-emergency services. One of these clinics is in the heart of the tourist belt on the west coast of Barbados and is opened 24-hours a day.

3.2.2. EFFECTIVENESS

Infant and Maternal Mortality

The infant mortality rate fluctuated between 13 -14 per 1,000 live births in the period 2002 to 2003. The maternal mortality ratio varied between 0.4 and 0.6 during 2002 and 2006. In absolute numbers, this meant that there was an average of two maternal deaths per year. In Barbados, all child births are attended by skilled personnel. Government's policy encourages pregnant women to consult with their antenatal provider by the 12th week of pregnancy.

17 Barbados Bed Needs and the Policy Option for the St. Joseph Hospital, 1995.

18 Report on the Master Plan for the Rationalization and Redevelopment of the QEH, 2006.

Mortality due to Malignant Neoplasms

Screening for breast, cervical, prostate and colon cancer is promoted in the media by the Ministry, the Barbados Cancer Society, and other civil society organisations. In addition to cancer screening activities in the public sector, the Barbados Cancer Society provides an active breast screening service for a small fee to the public. Data for years beyond 2003 were not readily available. (Table 6).

Table 6. Mortality due to Neoplasms of breast and prostate per 1,000 population, 2001-2003, Barbados

Site of malignant neoplasm	2001	2002	2003
Breast	0.2	0.2	0.2
Prostate	0.4	0.4	0.4
Digestive organs, except stomach	0.3	0.4	0.4

Source: Annual report of the Chief Medical Officer 2002-2003, March 2006

Incidence of Malaria, Tuberculosis and HIV/AIDS

Malaria is not endemic in Barbados. However, Government maintains active malaria surveillance in view of the movement of people and commodities within the Latin America and the Caribbean region, particularly those countries where malaria is endemic. In the period 1996-2006, there were 39 cases of malaria with one death in 2000; all cases were imported.

There were no reported deaths from tuberculosis in the period 2000 to 2007. Tuberculosis cases are managed under the Directly Observed Treatment Short Course (DOTS) program that underpins the Stop Tb strategy and is internationally recommended for Tb control. The Ministry has strengthened the DOTS program through health promotion and screening of any suspected new cases.

Recent estimates reveal that the incidence rate of HIV has remained stable with the rate being 0.14% in 2002 and 0.12% in 2007. Between 1997 and 2007, persons diagnosed with HIV have ranged from a low of 144 cases in 2005 to a high of 219 cases in 2000; 185 new cases are diagnosed annually in Barbados.

3.2.3. EFFICIENCY

Resource Allocation

All households and businesses (100%) in Barbados, (approximately 95,000), are provided with safe drinking water abstracted from underground aquifers, and one water purification plant. Construction of residential and commercial facilities placed additional demands on the ground water resources, which are fully utilized. Approximately 4,500 households and businesses in Bridgetown (the capital city) and along the south coast are

connected to the Bridgetown and the South Coast Sewerage Systems. The remaining households and businesses discharge liquid waste into covered deep wells except for those in water protected areas where septic tanks and filter beds are used for final disposal. The feasibility study for implementing a sewerage system on the west coast is currently being undertaken.

In the period 2000-2007, the budgetary allocation for public health to provide maternal and child health, immunization, and environmental health services increased marginally (see figure 4) reflecting the overall trends in the economy and the priorities of the Ministry of Health.

3.2.4. SUSTAINABILITY

The incremental cost over ten years to implement the Barbados Strategic Plan for Health was estimated at approximately US \$21m. Financial support to the health sector in the sum of US\$13.1m was approved by the European Union under the 9th EDF Program.

3.2.5. SOCIAL PARTICIPATION

In 2002, approximately 115 stakeholders from within the health sector, other non-health areas of government, the private sector, civil society, international financial institutions as well as regional and international stakeholders collaborated with the Ministry of Health in the formulation of the Barbados Strategic Plan for Health. Many of these actors participated in a mid-term policy review forum which assessed progress made up to 2007.

In addition, stakeholders participated in the formulation of policies for Mental Health Reform, Minimum Standards for Substance Abuse Facilities, Health Promotion, Chronic Diseases Management, and Community-based Rehabilitation services. In 2008, the Cabinet approved the establishment of an NGO Desk in the Ministry of Health, creating a formal mechanism to facilitate NGOs in their various roles - advocacy, provision of services and health education.

3.3. ANALYSIS OF ACTORS

Table 7. Actors in the health sector, by nature of involvement, Barbados

Actors involved in the Reform	Nature of involvement
World Bank (Adaptable Program Lending Program)	US\$15.15m for a 5-year AIDS project in 2001. In 2008, US\$35m for HIV/AIDS activities.
Clinton Foundation	MOU to obtain anti-retrovirals at reduced rates
Private sources	9% of funding for HIV/AIDS programming in 2004;
United Nations Development Program	Technical cooperation
Pan American Health Organization	Technical cooperation in health and fellowships
Caribbean Epidemiology Center	Training and epidemiological support
European Union	9 th EDF Program in the sum of US\$13.1 for sector budget support.

Source: Ministry of Health, 2008

BIBLIOGRAPHY

- Barbados, Ministry of Finance, Economic Affairs and Energy; *Barbados Social and Economic Reports*. Ministry of Finance, Economic Affairs and Energy 1996- 2007.
- Barbados, Ministry of Finance, Economic Affairs and Energy; *Barbados Socio-Economic Data*. Ministry of Finance, Economic Affairs and Energy, 2008.
- Barbados, Ministry of Health; *Annual Reports of the Chief Medical Officer*. Ministry of Health, 1995-2003.
- Barbados, National Nutrition Centre Ministry of Health, et al; *Food Consumption Anthropometric Survey*, FIVIMS Secretariat 2000.
- Barbados, Ministry of Health; *Barbados STEP Survey*, Ministry of Health, 2007.
- Barbados, Ministry of Health; *The Health of a Nation is the Wealth of a Nation: Barbados Strategic Plan for Health 2002-2012*. Ministry of Health 2003.
- Bitran, R. C.; *Barbados Health Sector Overview*. Ministry of Health 1995.
- Banoob, S.N.; *Barbados Bed Needs and the Policy Option for the St. Joseph Hospital*. Ministry of Health 1995
- Capita, Norman, Dawbarn; *Report on the Master Plan for the Rationalization and Redevelopment of the Queen Elizabeth Hospital*. Ministry of Health 2006.
- Central Bank of Barbados; *Annual Statistics Digest 2007*. Central Bank of Barbados 2007.
- Conseil Sante, *Inception Report: Barbados Health Sector Program*. Ministry of Health 2006.
- Conseil Sante; *The Raneiri Report: Health Systems Development*. Ministry of Health 2008.
- Government of Barbados and IADB; *Terms of Reference for the Barbados Health Sector Rationalization Study*. Ministry of Health 1995.
- Government of Barbados; *The National Strategic Plan of Barbados*. Government of Barbados 2005

- Inniss, T.; *Comprehensive Report to Inform the Presentation by the Government of Barbados to the Annual Ministerial Review of the United Nations Economic and Social Council on Barbados' Progress towards Achieving the MDGs and other Internationally-Agreed Development Goals*. Government of Barbados June 2007.
- Pan American Health Organization; *Public Health in the Americas: Conceptual Renewal , Performance Assessment and Bases for Action*, PAHO, Washington D.C. 2002
- United Nations Development Program (UNDP). *Human Development Report 2007/2008. Economic Growth and Human Development*. New York: UNDP 2008.
- Wu, S., Nemesure, B., Leske, M.C.; *Observed versus Indirect Estimates of Incidence of Open-Angle Glaucoma*; American Journal of Epidemiology 153(2) pg 184-187.



AREA OF HEALTH SYSTEMS AND SERVICES HSS-SP

PAN AMERICAN HEALTH ORGANIZATION/
WORLD HEALTH ORGANIZATION

978-92-75-12959-3



9 789275 129593

