

Health System Profile Bermuda 2009

Monitoring and Analyzing Health System Reform
March 2010



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EXECUTIVE SUMMARY

Bermuda's population is aging. Life expectancy at birth in 2009 was 79.37 years up from 77.89 years in 2000. The proportion of the population under the age of 15 is declining while the proportion over 60 is increasing. Overweight and obesity has been identified by the Ministry of Health as the number one health concern for Bermuda. Most leading causes of death in Bermuda are related to chronic, non-communicable conditions caused by lifestyle factors such as inactivity and poor diet.

Bermuda has an advanced economy. Real GDP totaled US\$ 4.18 billion in 2008 and economic growth has averaged 3.54% per year since 2000. Total health expenditure was US\$487.3 million in 2008, or US\$7,635 per capita. The share of GDP spent on health care has averaged 8.2% per year since 2003. The provision of health insurance by employers is mandated by law, stipulating the minimum health insurance benefits required in all health insurance plans.

The Ministry of Health is the primary steward of the Bermuda health system. The Ministry's steering role is created by the legal mandates of the Public Health Act 1949, the Health Insurance Act 1970, the Bermuda Hospitals Board Act 1970, and the Bermuda Health Council Act 2004. The Department of Health provides public health services, most of which can be accessed at no cost.

There have been a number of health system reform initiatives since the 2005 Bermuda Health Systems and Services Profile was published. Examples include the introduction of a national health promotion strategy, the opening of a new urgent care center, the hospital's implementation of a new billing system and introduction of a hospitalist program, the introduction of a government-run health insurance plan for seniors, transfer of management and oversight for the Government health insurance plan and mutual reinsurance fund, and strengthening of re-licensing requirements for health insurers.

1. CONTEXT OF THE HEALTH SYSTEM

The purpose of this report is to provide an update on the status of the Bermuda's Health System, its current context and functions, and its progress in the area of reform. The report is an update to the 2005 Bermuda Health Systems and Services Profile¹.

Bermuda is the oldest self-governing British Overseas Territory. It is located in the North Atlantic Ocean and has a humid, sub tropical climate. Bermuda today has a strong economy driven primarily by international finance and tourism.

1.1 HEALTH SITUATION ANALYSIS

1.1.1 Demographic Analysis

Bermuda's civilian non-institutionalized sheltered population was 62,059 at the 2000 Census. The population growth model utilized by the Department of Statistics estimates that the population would have grown to 64,395 by July 2009.² Thus Bermuda, with a land area of 20.6 square miles, has a population density of 3,125 persons per square mile; it is 100% urban. The racial composition of the population is 58% black, 42% white and other races.³

Like many high-income countries, Bermuda is experiencing an ageing of its population. As shown in Table 1, over the last decade there has been a decline in the proportion of the population that is under the age of 15, while the proportion of the population over the age of 60 has increased (see Figure 1). Additionally, the annual growth rate of the population has declined, slowing from a 0.55% growth rate in 2000 to an estimated growth rate of 0.28% in 2009. Life expectancy at birth has increased from an average of 77.89 years in 2000 to an estimated 79.37 years at the end of 2009. Women outlive men by 5.34 years on average; they had an average life expectancy of 82.11 years, versus 76.77 years for men in 2009.

1.1.2 Epidemiological Analysis

The Ministry of Health identified overweight and obesity as the number one health concern for Bermuda in 2004.⁴ In 1999 57% of Bermuda's population was overweight or obese.⁵ By 2006 the proportion of the population classified as overweight or obese had increased to 64%.⁶ Diabetes is a significant health concern for Bermuda's population. Approximately 9,000 persons (14% of the population) are currently living with the condition, and the island is estimated to have one of the highest rates per capita of diabetes in the world. It is estimated that only two-thirds of type 2 diabetics have been diagnosed.⁷

- 1 Ramella, M. (2005). Bermuda Health Systems and Services Profile. Report for the Ministry of Health and Family Services. Government of Bermuda.
- 2 Department of Statistics. (2006). Mid-Year Population Projections July 1, 2000 to July 1, 2030. Government of Bermuda.
- 3 Department of Statistics (personal communication, February 17, 2010).
- 4 Department of Health. (2005). Health Priorities Report. Government of Bermuda
- 5 Department of Health. (1999). Adult Wellness Survey. Government of Bermuda.
- 6 Department of Health. (2007). Health Survey of Adults and Children in Bermuda 2006. Government of Bermuda.
- 7 Bermuda Hospitals Board. (2010). About Diabetes. Retrieved January 16, 2010, from <http://www.bermudahospitals.bm/diabetes/overview.asp>

Table 1. Demographic Trends, Bermuda, 2000, 2005, 2008

Indicators	Periods		2000		2005		2008	
			M	F	M	F	M	F
Total population (thousands)			29.8	32.3	30.4	33.1	30.6	33.6
Proportion of population under age 15			9.5	9.6	9.3	9.1	9.0	8.7
Proportion of population age 60 and over			6.4	8.6	7.0	9.5	7.5	10.2
Annual population growth rate			0.55		0.37		0.30	
Total Fertility Rate				1.74		1.83		1.81
Crude birth rate x 1,000 inhabitants			14.26	12.77	14.59	11.80	13.80	11.95
Crude death rate			7.68	7.47	7.82	6.00	8.06	5.84
Life expectancy at birth			75.26	80.60	76.07	81.44	76.70	81.91
Migratory Balance			-50		-108		-112	

SOURCES: Department of Statistics, Government of Bermuda and Bermuda Hospitals Board

In 2007 Bermuda recorded 417 deaths (see Table 2). The leading causes of death were: diseases of the circulatory system, neoplasms (cancers), diabetes, external causes, diseases of the respiratory system, diseases of the nervous system, diseases of the digestive system, infectious and parasitic diseases, and diseases of the genitourinary system. Most leading causes of death in Bermuda are related to chronic, non-communicable conditions caused by life style factors, such as inactivity and poor diet.⁸ The leading cause of death for the past five years has been diseases of the circulatory system, representing 31% of deaths in 2003, 39% in 2004, 36% in 2005, 41% in 2006, and 47% in 2008. Mortality due to neoplasms was 30% in 2003, 24% in 2004, 25% in 2005, 24% in 2006, and 25% in 2007.⁹ Bermuda's infant mortality rate per thousand was 0 in 2002, 2.3 in 2003, 0 in 2004, 2.4 in 2005, 3.8 in 2006, 4.7 in 2007, and 4.9 in 2008,^{10,11,12,13} averaging 2.6 per year. Annual fluctuations are common in small jurisdictions. The average for the period compares favourably to international benchmarks. Between 2000 and 2008 under-five's mortality ranged from 0 to 1.6 per thousand, averaging 0.7 over the period.¹⁴

The annual incidence of lung cancer since 2000 has averaged 22 new cases per year, while the incidence of breast cancer in females has averaged 27 new confirmations of malignant tumors per year since 2000 (see Table 3).

The Epidemiology and Surveillance Unit reported an average annual incidence of 744 influenza cases between 2000 and 2008. Over the same period, two cases of dengue fever, three cases of malaria, and 11 cases of tuberculosis were reported; all cases were imported.

8 Attride-Stirling, J. (2008). Well Bermuda: A National Health Promotion Strategy (2nd Ed.). Government of Bermuda: Department of Health.

9 Epidemiology & Surveillance Unit. (2005). Selected Causes of Death 2003 to 2005. Department of Health. Government of Bermuda.

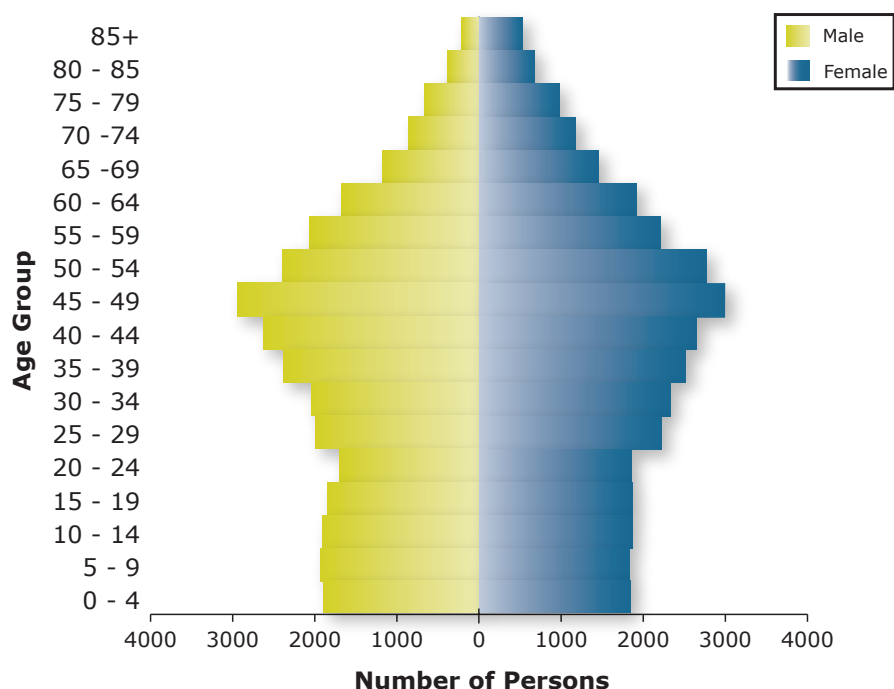
10 Department of Statistics. (2004). Facts and Figures 2004. Government of Bermuda.

11 Department of Statistics. (2007). Facts and Figures 2007. Government of Bermuda.

12 Department of Statistics. (2008). Facts and Figures 2008. Government of Bermuda.

13 Department of Statistics. (2009). Facts and Figures 2009. Government of Bermuda.

14 Epidemiology & Surveillance Unit

Figure 1. Population Projection of Bermuda by Age and Sex, 2009

SOURCE: Department of Statistics, Government of Bermuda

Table 2. Leading Causes of Death in Bermuda in 2007

Underlying Cause	Number of Deaths			% of Total Deaths			Rate Per 100,000 Population		
	M	F	All	M	F	All	M	F	All
Diseases of the Circulatory System	101	94	195	24.2	22.5	46.8	330.3	281.2	304.6
Neoplasms (Cancers)	57	47	104	13.7	11.3	24.9	186.4	140.6	162.5
Diabetes	7	15	22	1.7	3.6	5.3	22.9	44.9	34.4
External Causes	19	3	22	4.6	0.7	5.3	62.1	9.0	34.4
Diseases of the Respiratory System	12	10	22	2.9	2.4	5.3	39.2	29.9	34.4
Diseases of the Nervous System	5	10	15	1.2	2.4	3.6	16.4	29.9	23.4
Diseases of the Digestive System	5	4	9	1.2	1.0	2.2	16.4	12.0	14.1
Infectious and Parasitic Diseases	6	3	9	1.4	0.7	2.2	19.6	9.0	14.1
Diseases of the Genitourinary System	3	2	5	0.7	0.5	1.2	9.8	6.0	7.8
All other causes	7	7	14	1.7	1.7	3.4	22.9	20.9	21.9
All causes	222	195	417	53.2	46.8	100.0	726.0	583.3	651.5

SOURCE: Epidemiology and Surveillance Unit, Department of Health

Throughout the last decade Bermuda's incidence of HIV ranged between 13 and 34 cases per 100,000. The lowest incidence was recorded in 2002 at 13 per 100,000 and there have been annual increases since then, peaking at 34 in 2008. The majority of HIV cases have been men (see Table 3).

Table 3. Morbidity and Risk Factors

Indicators	2000	2001	2002	2003	2004	2005	2006	2007	2008
Annual incidence of influenza infections*	815	980	766	700	661	1335	531	394	517
Annual number of confirmed dengue cases	0	0	1	1	0	0	0	0	0
Annual number of confirmed malaria cases	0	0	0	0	0	1	0	1	1
Annual incidence of TB	0	0	0	1	0	1	3	2	4
Annual incidence of positive sputum-smear microscopy TB	0	0	0	1	0	1	2	1	3
Annual incidence of HIV (per 100 000 population)	24	24	13	16	17	17	19	23	34
Ratio of HIV cases (man/women)**	13:2	13:2	8:0	6:4	10:1	10:1	10:2	8:7	13:9
Annual incidence of malignant neoplasms of the lung	29	22	26	23	19	23	23	15	20
Annual incidence of malignant neoplasms of the female breast	27	36	19	34	38	17	27	24	22
Annual incidence of malignant neoplasms of the cervix	3	0	0	0	1	1	0	0	1

SOURCES: Epidemiology and Surveillance Unit, Department of Health and Bermuda Hospitals Board

Note: All dengue, malaria and TB cases were imported

* Clinical diagnosis only (not all laboratory confirmed)

** Raw data

1.1.3 Millennium Development Goals (MDGs)

The Government of Bermuda, while not having formally adopted the MDG objectives, has sought to achieve these goals as part of Bermuda's social development. With respect to **poverty eradication**, Bermuda's 2008 per capita income was estimated at US\$93,078 and the Department of Statistics estimates that 11% of all households earned below the "Low Income Cut-Off" average of US\$36,605.¹⁵ Government programmes provide financial assistance, free or subsidized primary healthcare, and subsidized hospitalization to these populations to help mitigate the effects of relative poverty. **Education** is provided free to Bermuda residents from "Pre-School" (entry at age 4) to the second year of college level study. **Gender equality** is guaranteed under the constitution; in 2008, 47.7% of all jobs in

15 Department of Statistics. (2008). Low Income Thresholds, A Study of Bermuda Households in Need. Government of Bermuda: Bermuda

Bermuda were held by women,¹⁶ and in 2007, 53% of young women had completed a level of education beyond high school in comparison to 45% of young men.¹⁷ **Child mortality** for under-five's averaged 0.7 per thousand between 2000 and 2008; infant mortality has averaged 2.6 per thousand between 2002 and 2008. Between 2003 and 2007 there was one incidence of **maternal mortality**.¹⁸ **HIV** infections increased from 8 in 2002 to 22 in 2008; the Department of Health formulated an HIV/AIDS strategy in 2006 with eight broad priority areas, which have been implemented.¹⁹ Bermuda has a **Sustainable Development Strategy** and has designed an implementation plan.²⁰ Lastly, with respect to **global partnerships for development**, the Government of Bermuda has worked in cooperation with the OECD by signing over 18 Tax Information Exchange Agreements (TIEAs), demonstrating Bermuda's commitment to a sustainable global financial system and the principle of transparency as developed by the OECD.

1.2 DETERMINANTS OF HEALTH

1.2.1 Political Determinants

Bermuda is an advanced jurisdiction politically with a modern constitution and legal system that guarantees democracy, personal freedom, private property, the rule of law, free education, mandates the provision of health care, and other basic rights. Bermuda is divided into nine parishes and is governed under a Westminster parliamentary system that features a legislature composed of an elected 36-seat House of Assembly and an appointed 11-seat Senate. The Parliament of Bermuda is among the oldest in the world, originating in 1620. Bermuda's population has high expectations of the economic and social benefits provided by the country's constitutional freedoms and its affluence. Bermuda is politically stable and is an associate member of CARICOM.

1.2.2 Economic Determinants

Bermuda's real GDP stood at US\$4.18 billion in 2008, while its real GDP per capita amounted to US\$63,822 placing the island among the richest economies in the world. Real GDP has maintained sustained growth during the 21st Century, with just over 33% increase in the period 2000 – 2008 (see Table 4).

Public expenditure per capita grew from US\$8,150 in 2000, to US\$14,413 in 2008, an increase of 76.85%. The share of nominal GDP represented by public expenditure also rose in the same period, from 14.5% in 2000 to 15.5% in 2008. The share of nominal GDP represented by public health expenditure rose from 2.4% to 2.5% over the same period. Private expenditure on health is estimated to have risen from US\$200.4 million in 2000, to US\$333.3 million

16 Department of Statistics. (2009). Labor Market Indicators. Government of Bermuda: Bermuda.

17 Department of Statistics. (2007). Young Bermudian Adults and Literacy. Government of Bermuda: Bermuda.

18 Epidemiology and Surveillance Unit, Department of Health (personal communication, February 8, 2010).

19 Epidemiology and Surveillance Unit, Department of Health. (2009). 2008 Annual Report on HIV/AIDS in Bermuda. Government of Bermuda.

20 Central Policy Unit. (2006). Charting our Course: Sustaining Bermuda. The Cabinet Office: Government of Bermuda.

in 2008, an increase of 66.32% over the period. Total health expenditure, both public and private, for 2008 is estimated at US\$487.3 million. Out of pocket expenditures on health care were estimated to be 14.7% of total health expenditure in 2008.

Annual inflation, as measured by the Bermuda consumer price index (CPI) averaged 3.27% from 2000 to 2008 (see Table 4). The Health and Personal Care Price Index rose by an average 6.27% annually from 2003 to 2008.²¹

Regarding employment, Bermuda has experienced a shift from reliance on tourism (a labour based economic model) to international finance, especially insurance (a knowledge based economic model). The Department of Statistics estimates that the total number of filled job positions in Bermuda at the end of 2008 was 40,213, just less than 1% up from 39,851 at the end of 2007, and 35,323 at the end of 1998.

According to the Bermuda 2000 Census, 95% of the population was covered by some form of health insurance policy. Overall, 86% of the population reported they had major medical health insurance and 9% reported they had basic coverage. Thus, in the year 2000 5% of the population reported to be without health insurance.²² In 2009, licensed health insurance companies and approved schemes reported to the Bermuda Health Council a total of 53,837 persons covered by health insurance in Bermuda as at 31st March 2009.²³ Given that Bermuda's total population was estimated at 64,395, this indicates that 83.6% of the population had health insurance coverage. The outstanding 16.4% are understood to be school-age children (who enjoy universal health coverage under the government subsidy and public health programmes), resident expatriate consultants and their dependents (whose health insurance coverage is provided by their employer via an insurer from their country of origin), and the uninsured (unemployed adults, retirees, and young people aged 17 to 21 who are not in education or employment). In 2008, an independent survey commissioned by the Bermuda Health Council found that 90% of adults surveyed had health insurance. Persons earning US\$50,000 per year or more reported 100% coverage. However, 67% of those earning under US\$50,000 per year reported having health insurance.²⁴

1.2.3 Social Determinants

A 2006 study of adult literacy and life-skills found that 62% of adults in Bermuda scored at or above an adequate level for prose literacy, 54% for document literacy, and 46% for numeracy. Individuals scoring at or above an adequate level are considered, "capable of coping with rapidly changing skill demands of a knowledge-based economy and society. This group was considered to be well educated and their living environment literacy rich."²⁵

21 Department of Statistics. (2009, June). Consumer Price Index. Government of Bermuda: Bermuda.

22 Department of Statistics. (2002). Report on the 2000 Census of Population and Housing. Government of Bermuda.

23 Morneau Sobeco. (2010). Actuarial Report for the Bermuda Health Council 2009. Bermuda Health Council: Bermuda.

24 Profiles of Bermuda. (2008). Research Review: An Analysis for the Bermuda Health Council. Bermuda Health Council: Bermuda.

25 Department of Statistics. (2006). Literacy in Bermuda: A Study of Adult Literacy and Life-Skills in Bermuda, p. vii. Government of Bermuda: Bermuda.

Reports of domestic violence and violent crime have increased over the past decade. The Women's Resource Center reported that 121 incidents of domestic violence against women were reported in 2005, 136 in 2006, 161 in 2007, and 194 in 2008.²⁶ The Bermuda Police Service reported that between 1996 and 2006 an average of 296 violent crimes were committed annually.²⁷ In 2009 6 persons were murdered in Bermuda, giving the island a murder rate of 9.2 per 100,000, up from 1.1 per 100,000 in 2003-2004.²⁸

Table 4. Trends for Selected Economic Indicators

Indicator	Annual Trends		
	2000	2005	2008
GDP at constant market prices (US\$ billions)	3.14	3.77	4.18
GDP per capita in US\$, in constant prices	50,552	58,512	63,822
Public expenditure per capita	8,150	11,007	14,413
Economically Active population (EAP)*	37,978	38,947	40,213
Total public expenditure, as a percentage of GDP	14.5	14.6	15.5
Public expenditure on health, as a percentage of GDP	2.4	2.8	2.5
Public expenditure on health services, as a percentage of GDP	0.1	0.1	0.1
Private expenditure on health (US\$)	200,413,000	272,573,540	333,306,259
Out-of-pocket Expenditure (% of total health expenditure)	17.3	14.6	14.7
Annual Inflation Rate (CPI)	2.7	3.1	4.8
Remittances as a percentage of GDP	N/A	N/A	N/A
Foreign debt, as a percentage of GDP	3.9	3.6	7.5
Percentage of female headed households	47	N/A	N/A
Service of the foreign debt, as a percentage of GDP	0.4	0.2	0.3

SOURCE: Department of Statistics, Government of Bermuda

*EAP 15-59 years of age. EAP population employed

1.2.4 Environmental Determinants

The Department of Health is responsible for protecting the health and welfare of Bermuda's population from environmental threats. The Environmental Health Section of the Department of Health conducts rodent and mosquito control. The Central Government Laboratory provides public health laboratory services to support environmental health and analysis of water, food and dairy products for bacteriological and chemical quality. One hundred percent of the population of Bermuda has access to clean drinking water and excreta disposal services. The Department of Environmental Protection also acts to protect Bermuda's environment and promotes sustainable use of the island's resources. Activities include monitoring air quality, ground water, pesticide use, testing for soil and water pollution, and monitoring the disposal of products containing toxins.

²⁶ The Women's Resource Centre (personal communication, November 23, 2009).

²⁷ Crime: The ten year statistics. (December 7, 2007). The Royal Gazette. Retrieved February 7, 2010, from <http://www.royalgazette.com/rg/Article/article.jsp?sectionId=60&articleId=7d7c3b73003000b>

²⁸ Bermuda's per capital homicide rate was more than five times London's rate in 2009. (January 9, 2010). The Royal Gazette. Retrieved February 7, 2010, from <http://www.royalgazette.com/rg/Article/article.jsp?sectionId=60&articleId=7da14ab3003000c>

2. FUNCTIONS OF THE HEALTH SYSTEM

2.1 STEERING ROLE

The Ministry of Health of the Government of Bermuda is the primary steward of the island's health system. The Minister of Health is accorded the leadership role by the mandate vested by the Public Health Act 1949 (PH Act), which states that the Minister of Health, among other things shall exercise a general supervision and control over all matters concerning or connected with public health; shall cause to be made such inquiries as he thinks expedient in respect of any matters concerning or connected with the public health, or in relation to any matters in respect of which his sanction, approval or consent, or the sanction, approval or consent of any Public Health Officer, is required by this Act; and in respect of matters connected with the public health, shall cause such statistical data to be obtained and recorded, and such records or reports to be published, as he may think expedient.

The Ministry of Health's mission statement is: "To promote and protect the physical, mental and social well-being of the community, and to ensure that individuals and groups have access to appropriate services and support necessary to maintain or attain optimal physical, mental or social well-being."²⁹ The Ministry pursues these goals through the direct provision of primary health care and public health services via the Department of Health; the strategic direction, policy formulation, regulation and licensing, standard-setting, coordination and consultation that it provides to the health system; and the financial support it provides to the island's hospitals.

There are three additional legislative acts that expand and enhance the steering authority of the Ministry of Health. They are the Bermuda Hospitals Board Act 1970 (BHB Act), the Health Insurance Act 1970 (HI Act), and the Bermuda Health Council Act 2004 (BHeC Act). The BHB Act and the BHeC Act enhance the Ministry's steering role by providing for the Minister to appoint the membership of the Bermuda Hospitals Board and the Bermuda Health Council. The BHeC and the BHB work closely and collaboratively with the Ministry of Health.

The Bermuda Health Council (BHeC) is a Quasi-Autonomous Non-Governmental Organisation (QUANGO) established to regulate, coordinate and enhance the delivery of health services. The strategic goals of the Bermuda Health Council are ensuring quality, equity, efficacy, and accountability in health care service provision.³⁰ Activities performed by the BHeC in pursuit of these goals include licensing health insurers, regulating health service providers and health professionals, and monitoring compliance by employers with the mandates of the Health Insurance Act 1970.

29 Ministry of Health. (n.d.). Mission Statement. Retrieved January 14, 2010, from http://www.gov.bm/portal/server.pt?open=512&objID=267&&PageID=1750&activetab=TabCTRL_DropDownTabsGovernment1&mde=2&in_hi_userid=2&cached=true

30 Bermuda Health Council. (2009). Quality and Sustainability in Healthcare: Bermuda Health Council, Strategic Plan 2009 – 2012. Bermuda Health Council: Bermuda.

The Bermuda Hospitals Board (BHB), a QUANGO, operates the islands two hospitals (King Edward VII Memorial Hospital (KEMH) and the Mid Atlantic Wellness Institute (MWI)) and the Lamb-Foggo Urgent Care Centre. All facilities receive financial resources from the Ministry of Health, but are operated at arms length from the Government by the BHB.

2.1.1 Mapping of Health Authority

The Ministry of Health is lead by the Minister of Health, who must be an elected member of the House of Assembly, or an appointed member of the Senate. The incumbent is appointed by the Premier, the leader of the ruling party, and as such is a member of the Cabinet. The Minister of Health, as the leading elected public official on matters relating to health, has overall responsibility for defining and directing the country's health strategy and related plans, policies, regulations, rules and standards, and ensuring that they are aligned with the budgetary and political realities of the day. The Permanent Secretary (PS) of Health is the civil servant heading the ministry, with responsibility for the Department of Health, the Health Insurance Department, the BHB, and the BHeC. The Chief Medical Officer (CMO) leads the Department of Health and oversees the financial and technical operations of public health services, and twelve statutory boards and councils that regulate health professionals. The Health Insurance Department manages the Health Insurance Plan (HIP), the mutual reinsurance fund, and the government health subsidies. The approved budget for the Ministry of Health for the 2009 – 2010 fiscal year was US\$177.8 million. This represented 18.4% of the Government's 2009-2010 budget.³¹ The Ministry represents Bermuda in health matters at both the Pan American Health Organization (PAHO) and the Caribbean Community (CARICOM).

2.1.2 Regulation

The health regulatory framework that protects and promotes the population's health is given primarily by the Public Health Act 1949, the Health Insurance Act 1970, the Bermuda Hospitals Board Act 1970, the Bermuda Health Council Act 2004 and a range of regulations in support of these acts, including regulations for health professionals.

- ❖ The **Public Health Act 1949** gives the Ministry of Health broad regulatory powers over matters relating to public health, including surveillance, identification, investigation and notification of communicable disease.
- ❖ The **Health Insurance Act 1970** mandates employers make health insurance available to all employees and their non-employed spouses through a licensed insurer. Self employed persons are also required to have health insurance. Health insurance coverage must include a minimum of the full standard hospital benefit. An employer is required to pay the insurer the entire cost of the health insurance premium for each employee and their non-employed spouse, but may deduct from an employee's salary up to half the cost of

31 Government of Bermuda. (2009). Approved Estimates of Revenue and Expenditure for the Year 2009/10. Government of Bermuda: Bermuda.

the standard premium. The act also establishes that the Government will subsidize the hospitalization fees of children under the age of 16, full time students under the age of 21, adults over the age of 65, disabled persons, and the indigent. Finally, the act creates a government-run low-cost health insurance plan that is offered for sale to the public, a health insurance plan for seniors (FutureCare), and the Mutual Reinsurance Fund (MRF), which backstops all licensed health insurers for very expensive claims, such as kidney transplants.

- ❖ The **Bermuda Health Council Act 2004** establishes a 15 member health council charged with the responsibility of regulating, coordinating, and enhancing the delivery of health services in Bermuda. Key functions include ensuring the provision of essential health services, exercising regulatory responsibility over health services, providers, health professionals and prescription drugs, and licensing health insurers and health service providers.
- ❖ The **Bermuda Hospitals Board Act 1970** establishes an independent board to oversee the professional management of the island's hospitals, objectively and at arms length from the government. The board operates the island's only secondary care and psychiatric facilities.

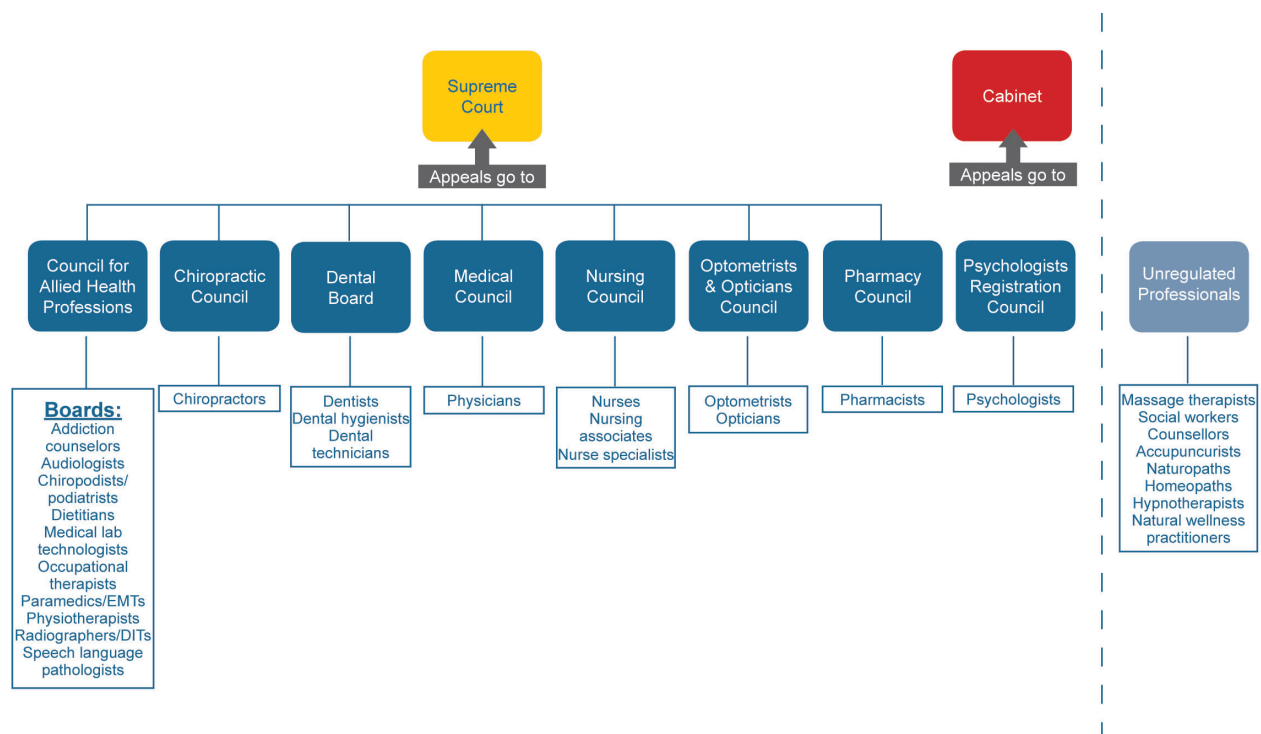
In addition, there are acts which regulate health care businesses, such as pharmacies, and which establish statutory boards or councils that admit, license, and regulate professionals including the Allied Health Professions Act 1973, Chiropractors Act 2002, Dental Practitioners Act 1950, Medical Practitioners Act 1950, Midwives Act 1949, Nursing Act 1997, Optometrist and Opticians Act 2008, Pharmacy and Poisons Act 1979, and Psychological Practitioners Act 1998. The current regulatory framework for professionals is illustrated in Figure 2.

2.2 DEVELOPMENT OF ESSENTIAL HEALTH FUNCTIONS

An assessment of Bermuda's essential public health functions (EPHF) was conducted in 2005 to evaluate the strengths and weaknesses of the public health system.³² The overall assessment was positive. Strengths identified in this assessment were mostly observed in the quantity of activity. Areas for improvement pertained to written policy, communication, monitoring, reporting, research, evaluation, and provision of technical assistance and support to the non-government sector.

As shown in Figure 3, the strongest function identified was EPHF 2 Public Health Surveillance, Research and Control of Risks and Threats to Public Health with a score of 84%. Other areas of strength included EPHF 6 Strengthening the Institutional Capacity for Regulation and Enforcement of Public Health (82%) and EPHF 1 Monitoring, Evaluation and Analysis of Health Status (80%).

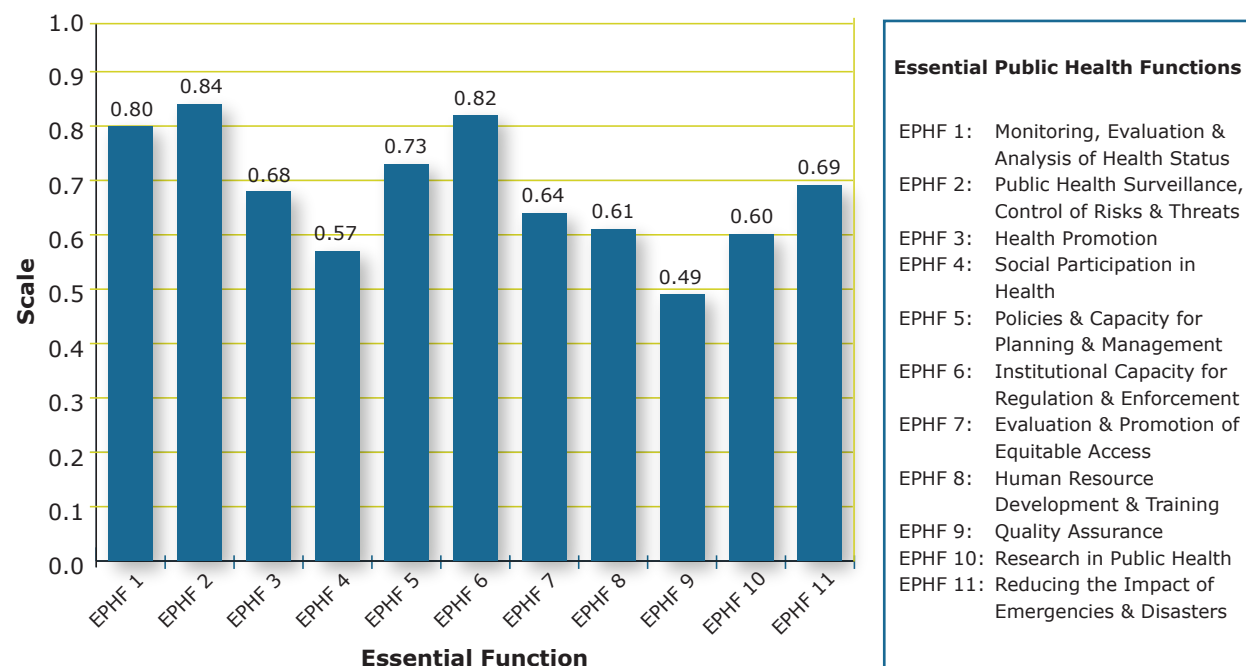
32 Lalta, S. (2005). Trip Report: Bermuda Performance of Essential Public Health Functions, February 20-26, 2005. Unpublished PAHO Report: PAHO, Jamaica.

Figure 2. Current (2010) Regulatory Framework for Healthcare Professionals

Seven of the eleven functions were identified as 'areas for improvement', with scores ranging from 57% to 73%; these were EPHF 3 Health Promotion, EPHF 4 Social Participation in Health, EPHF 5 Policies and Capacity for Planning and Management, EPHF 7 Evaluation and Promotion of Equitable Access, EPHF 8 Human Resource Development and Training, EPHF 10 Research in Public Health, and EPHF 11 Reducing the Impact of Emergencies and Disasters.

The weakest function was EPHF 9 Quality Assurance in Personal and Population-based Health Services (49%). This was identified as an area in which 'urgent attention' was required.³³ Between 2006 and 2008 the Department of Health enhanced its internal assurance mechanisms by conducting a review of programme logic models and developing improved performance measures and reporting processes.

33 Department of Health. (2005). Report on the Performance Measurement of Bermuda's Essential Public Health Functions. Unpublished Report from the Ministry of Health: Bermuda.

Figure 3. Scores for Essential Public Health Functions (EPHF)

SOURCE: Department of Health and Pan American Health Organization

2.3 FINANCING

As Table 5 indicates, the total value of funds financing the health system in fiscal 2008³⁴ in Bermuda was US\$487.3 million, with total public financing amounting to US\$154.0 million. This latter figure represents 16.3% of the total 2008 national budget. The 2008 public health financing level represents an 8.5% increase over fiscal year 2007, and an 82.1% increase over fiscal year 2000.

The US\$154.0 million of public financing of the system was 31.6% of total financing in 2008 and has averaged 30.7% of total health system financing since 2000. Public financing for the health system is provided through general taxation. Bermuda's government raises most of its revenue through payroll taxes, import duties and property taxes.

The largest portion of publicly financed health care can be found in the line item "Hospitalization Subsidy and MWI Grant" in Table 5. Included in this figure are the funds paid to the Bermuda Hospitals Board by the Ministry of Health as reimbursement for the portion of hospitalization fees attributable to persons eligible for the government's subsidies (discussed in section 2.1). The figure also includes the annual grant provided to the Bermuda Hospital's Board to assist

³⁴ The fiscal calendar of the Government is April 1st in any year to March 31st of the following year. The health system follows that fiscal calendar.

with the operation of the island's mental health hospital. The subsidies and grant amounts for fiscal 2008 were:³⁵

Statutory Hospital Patient Subsidy	\$ 80,057,000
Mid-Atlantic Wellness Institute Grant	\$ 34,527,000
Total	US\$114,584,000

Private financing of the health system totalled US\$333.3 million in 2008. This represented 68.4% of total health system financing. Private health insurance financed US\$259.8 million, or 77.9% of all private health system financing in 2008, and 53.3% of total health system financing.

Out of pocket payments, as a mode of health system financing, totalled US\$71.6 million in 2008, or 14.7% of all health system expenditures. From 2000 to 2008 out of pocket financing has averaged 15.7% of total health system financing. Out of pocket payments include insurance co-payments, and full cash payment for services.

Per capita health care spending in Bermuda was US\$7,635 in fiscal year 2008, an increase of 45.2% over 2003 (see Table 6). Total health expenditure accounted for 8.2% of Bermuda's nominal GDP in 2008. Total health expenditure has averaged 8.2% of nominal GDP since 2003.

Table 5. Health Systems Financing (in US dollars, '000)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total National Budget	507,833	533,599	559,168	705,514	710,640	708,354	836,070	885,811	943,438
National Budget Assigned to the Health Sector	84,538	92,224	98,703	104,474	111,317	121,239	129,735	141,958	153,994
Public Sub-sector (Total)									
Ministry of Health	4,089	5,791	6,234	5,093	5,340	6,464	4,993	3,400	8,871
Department of Health	14,949	17,027	18,663	19,445	20,241	22,406	24,540	29,370	30,539
Hospitalization Subsidy & MWI Grant	65,500	69,406	73,806	79,936	85,736	92,369	100,202	109,188	114,584
Private Sub-sector (Total)									
Total Private Financing	200,413	214,577	218,348	228,812	261,914	272,574	290,286	312,451	333,306
Private Insurers	150,967	162,619	165,555	175,077	204,348	212,926	226,625	243,755	259,877
Out-of-Pocket Expenditure/Total Financing (%)	17.3	16.9	16.6	16.1	15.1	14.6	14.8	14.9	14.7
Out-of-Pocket Expenditure	49,439	51,972	52,793	53,726	56,358	57,497	62,163	67,707	71,633
Donations									
Non-Profit Organizations	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Health Financing	284,951	306,801	317,051	333,286	373,231	393,813	420,021	454,409	487,300

SOURCE: Department of Statistics and the Accountant General, Ministry of Finance, Government of Bermuda

N/A = Data not available

35 Government of Bermuda. (2009). Approved Estimates of Revenue and Expenditure for the Year 2009/10. Government of Bermuda: Bermuda.

Table 6. Health Expenditures Over the Past 5 Years

Expenditure Realized	2003	2004	2005	2006	2007	2008
Public expenditure on health per capita in US\$	1,656	1,864	2,094	2,151	2,270	2,544
Public expenditure on health/ Total public expenditure	14.8	15.7	17.1	15.5	16.0	16.3
Total expenditure on health per capita in US\$	5,258	5,959	6,330	6,639	7,071	7,635
Total expenditure on health, as a % of GDP	8.0	8.5	8.4	8.0	7.9	8.2

SOURCE: Department of Statistics, Government of Bermuda

2.4 ASSURANCE

The Health Insurance Act (HI Act) 1970 established Bermuda's health system model, its founding principles remain in place to date. The act mandates that health insurance be provided via employers and establishes the minimum package and its price. Bermuda has enjoyed over-employment since the late 1970s, with full employment available for residents of working age over the last 30 years. The historically high level of employment in Bermuda has resulted in health insurance provision for above 90% of the population. Since 1970 Bermuda's health system has operated on a mixed public-private model of financing.

The HI Act mandates that every employer make health insurance available to all employees and their non-employed spouses via a licensed health insurer. An employer is required to pay the insurer the entire cost of the health insurance premium for each employee and their non-employed spouse, but may deduct from an employee's salary (or wages) up to half the cost of the Standard Premium.

The HI Act also stipulates that all health insurance plans must provide, at a minimum, the Standard Hospital Benefit (SHB). The SHB is a schedule of inpatient and outpatient hospitalization benefits defined by the Standard Hospital Benefits Regulations 1971. The price of the SHB, the Standard Premium Rate, is set annually by the legislature. The Standard Premium is the base price level for all health insurance packages. A health insurer cannot charge more than the Standard Premium rate for the SHB. The Standard Premium is set with reference to the claims experience of all insureds.

The BHeC regulates and licenses health insurers. There are legal sanctions for employers who are non-compliant with the HI Act and regulations.

2.5 SERVICE PROVISION

Population Based Health Services

Public health services in Bermuda are provided almost exclusively by the Department of Health (DoH). The DoH's vision statement is: "Healthy People in Healthy Communities". The mission statement is: "To promote and protect the physical, psychological and social well being of the community, to enable the island's residents to realize their optimum quality of life."³⁶ The DoH is organized in to five sections which provide public health programmes and services: community health, oral health, environmental health, central government laboratory, and administration.

The **Community Health Section** provides personal health services and programmes for the population, focusing on children, mothers, seniors and institutionalised populations. These include:

- ❖ **Child Health** provides health assessments and programmes to infants and children up to age five, including immunizations, growth and development assessments, advice on illness and injuries, and referrals to specialist agencies. In 2007 the programme reported 85% of children aged 0-24 months were appropriately immunized for age.
- ❖ **School and Adolescent Health** provides advice to school aged children and adolescents and their parents in clinics and in schools. Confidential advice and information is provided on illness and injury prevention, nutrition, pregnancy, sexually transmitted diseases, and healthy lifestyles. In 2007 68% of Primary 1 (first year of elementary school) students were screened.
- ❖ **Community Health Nursing** provides health visiting and home care, including primary nursing and personal care services. In 2007 100% of new mothers discharged early from hospital were visited by a community health nurse within 72 hours of discharge, and 80% of all new mothers were visited by a health visitor within 14 days of delivery.
- ❖ **Maternal Health and Family Planning** provides counselling and evaluation of women of child-bearing age on matters of reproductive health, including family planning, pregnancy care, prevention of sexually transmitted infections, pap smears and breast exams. In the fiscal year 2007 the programme made 121 referrals for abnormal paps.
- ❖ **Communicable Diseases Control** provides diagnostic, treatment, education, and counselling services for persons with communicable diseases including sexually transmitted infections, tuberculosis, and HIV/AIDS. The programme also provides case management and information on prevention to persons infected with a communicable disease. In 2007 391 persons were screened for communicable diseases.
- ❖ **Nutrition** provides nutrition services to schools, rest homes and prisons. It also promotes healthy eating behaviours in the prevention of chronic diseases in the population. In 2007 88% of schools were found to be implementing the DOH nutrition policy.
- ❖ **Community Rehabilitation** provides physiotherapy and occupational therapy services

36 Department of Health. (2007). The Department of Health: Annual Report 2007. Unpublished report from the Ministry of Health: Bermuda.

for children, seniors and the physically disabled. A total of 131 persons were referred to the programme in 2007.

- ❖ **Speech and Language Programme** provides speech, language, and hearing assessments for children aged 2 to 19 to identify and refer children with hearing and speech related disabilities. In 2007 62 children aged 0 to 4 years old were assessed with 63% referred for speech and language therapy.
- ❖ **Lefroy House** provides residential, nursing and day care to seniors in a multi-level residential care facility. In 2007 95% of new residents were assessed within 72 hours of admission.
- ❖ **Opportunity Workshop** is a training centre for young adults with learning and/or physical disabilities. It provides opportunities for development of functional, social and vocational skills to promote independent living in the community. In 2007 34% of clients were in full time employment.
- ❖ **Orange Valley** provides therapeutic services for adults with cognitive challenges. The programme is designed to enhance the quality of life of participants through a wide array of services. In 2007 70% of clients showed an increase in socialization skills.
- ❖ **Adult Health Programme** provides health services to the prison population. In 2007 the programme screened 5% of the prison population for HBV, Hepatitis C, and HIV.
- ❖ **Seniors Health and Wellness Clinics** provide seniors health assessment and screening services to promote health and improve quality of life, including blood pressure screening and monitoring, blood sugar screening, nutrition guidance, adult immunizations, home safety and advice on aging, safety, medication, falls and chronic illnesses.
- ❖ **Clinical Laboratory** provides diagnostic testing to support clinical assessment of DoH clients. In 2007 the lab analyzed 770 specimens for HIV.

The **Environmental Health Section** provides services to maintain a healthy environment by applying effective control methods to environmental hazard, via three programmes:

- ❖ **Environmental Hygiene** ensures food safety in production, importation, storage and preparation, and promotes good food handling practices. The programme advises on private potable water supplies; monitors water mains and indoor and outdoor air pollution; scrutinizes building plans for plumbing, sewage and water supply; and inspects and licenses food establishments, day care centres, pharmacies, tattoo parlours, dairy farms, and pasteurization plants. In 2007 over 1,044 building applications were processed and 380 complaints about air quality, housing conditions, and garbage were handled.
- ❖ **Vector Control** conducts rodent and mosquito abatement and is responsible for the general control of vermin in public places. In 2007 vector control officers conducted a total of 20,665 inspections and visits in respect of mosquito control. They recorded a 3% increase in the number of positive mosquito traps. Rodent control service visits totalled 16,281, and service request increased 12% over 2006.
- ❖ **Occupational Safety and Health Office (OSHO)** ensures standards and promotes improvement in public, private and workplace venues through control of hazardous

materials, noise, nuisance, building fitness, fire and emergency planning and operations safety. OSHO provides risk assessment, inspection, investigation and health and safety training courses. For the 2007 year OSHO conducted 149 workplace inspections and 65 investigations of industrial accidents.

The **Oral Health Section** provides programmes to promote the oral health of Bermuda's children and institutionalized persons to minimize dental disease in the population. Services are provided at clinics and in schools. In 2007 the programme provided services to 3,264 children.

The **Central Government Laboratory** provides public health and forensic laboratory services to the Government and to agencies including environmental health, the police service, the courts, and the hospitals. Services include the analysis of water, food, and dairy products for bacteriological and chemical quality; analysis of urine specimens for abuse of drugs; and forensic and toxicological analyses. In 2007 the lab conducted analysis of 781 seized drugs cases and 4,227 urine drug screenings.

The **Administration Section** consists of the office of the Chief Medical Officer with responsibility for licensing and regulating health professionals, DOH management, community assessment and health promotion. It delivers the latter through two programmes:

- ❖ Epidemiology and Surveillance Unit ensures surveillance and investigation of communicable and non-communicable diseases and follows up on outbreaks such as food and waterborne diseases. It provides routine collection, analysis, interpretation, and distribution of information relevant for control and prevention of communicable and non-communicable disease. In 2007 100% of waterborne and food-borne outbreaks were investigated within 24 hours.
- ❖ Health Promotion Office develops and coordinates activities and programmes to promote lifestyles, environments, and policies that promote well being and good health. It conducts health surveys and provides the Healthy Schools Programme which works with a range of partners to create healthier environments for schools and students. In 2007 the programme produced a national health survey; oversaw implementation of five action plans for diabetes, obesity, seniors, disability, and parenting under the National Health Promotion Strategy; and 88% of local schools reported achieving health-related improvements due to the Healthy Schools Programme.

Public health services (primarily health evaluations and education focused around wellness and specific diseases or conditions prevalent in Bermuda) are also delivered by the non-profit sector. This includes, for example the Bermuda Diabetes Association, Bermuda Cancer and Health Centre, the Family Centre, Open Airways, and Age Concern.

Primary Care

Primary health care in Bermuda is, for the majority of the population, delivered by private physicians. According to the register of the Bermuda Medical Council, in 2008 there were 41 general or family medicine physicians (n=35) and public health physicians (n=6) who

were registered and practicing locally. This results in an approximate ratio of 6.37 primary care physicians per 10,000 inhabitants. The exact number is difficult to ascertain, due to the use of visiting consultant physicians, locums, and temporary replacements from overseas who provide care locally to the population. Physicians in private practice in Bermuda are compensated on a fee for service basis. There is currently little data available on the scope, quantity, or quality of primary health care being delivered in Bermuda.

Secondary Care

Bermuda's two hospitals, the King Edward VII Memorial Hospital (KEMH) and The Mid Atlantic Wellness Institute (MWI) provide almost all secondary health care in Bermuda. KEMH is a 360-bed hospital offering medium level care, including basic surgical specialties. The hospital has a bed ratio of 5.58 beds per thousand inhabitants. Table 7 shows statistics on utilization for specific services at the hospital. In 2008 KEMH employed 45 physicians, 391 nurses, and 94 allied health professionals. Persons requiring more advanced clinical diagnoses, treatment, or surgery (tertiary care) are referred to advanced treatment and surgical centres in the United States or Canada.

MWI, the island's mental health hospital, had a total of 95 beds in 2007/08, giving it a bed ratio of 1.48 beds per thousand inhabitants. The inpatient acute care section (24 beds) had an occupancy rate of 77% in 2007/08, while the long-term and rehabilitation section (71 beds) had an occupancy rate of 83%. In 2008 MWI employed 9 physicians, 87 nurses, and 15 allied health professionals.

In 2009 the BHB opened the Lamb-Foggo Urgent Care Centre, located in the east end of the island. The facility offers treatment of minor illnesses and injuries. Lamb-Foggo has 4 treatment bays.

Table 7. Utilization of Specific Services in KEMH

Service	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08
Cardiac Investigations Attendances	10,716	9,992	10,270	9,971	9,773	9,492	10,377	10,560
CAT Scans	4,426	4,512	4,363	4,230	4,851	5,348	6,349	6,535
Emergency Department Visits	31,918	31,634	31,938	31,469	32,116	33,617	34,402	35,804
Laboratory	3,370	3,412	3,543	3,558	3,555	3,725	3,811	3,739
Operations (inpatients)	2,770	2,494	2,346	2,249	2,413	2,150	2,135	2,147
Operations (outpatients)	5,105	5,348	5,654	5,742	5,775	6,343	6,669	6,452
Ultrasound Scans	8,499	9,013	9,627	9,772	9,901	9,981	9,800	9,222
X-ray Examinations	31,687	31,703	31,515	31,138	31,548	30,529	31,374	31,214

SOURCE: Bermuda Hospitals Board

2.6 HUMAN RESOURCES DEVELOPMENT

The Bermuda College offers a “Nursing Assistant Certificate” which prepares students for entry level positions in the health care sector. There is also an Articulation Agreement with Hampton University (Virginia, USA) which allows Bermuda College students a seamless transfer to a baccalaureate programme in nursing. There are no medical schools, graduate medical or graduate health education programmes on the island. Typically health professionals receive their training in the United States, Canada, or the United Kingdom.

In 2008 the register of the Bermuda Medical Council had 129 registered and practicing physicians, resulting in an approximate ratio of 20.3 physicians per 10,000 inhabitants. As with primary care, the exact number is difficult to ascertain, due to the high use of visiting consultant physicians, locums, specialist surgeons, and temporary replacements from overseas who provide primary and secondary care locally. The Medical Council figure doesn’t match exactly the figure reported by the Department of Statistics Employment Survey figures, which report 127 physicians working in Bermuda in 2008,³⁷ but the anomaly is negligible. Table 8 shows the number of health professionals in selected areas working in Bermuda according to the Department of Statistics Employment Survey. In 2007 58.5% of physicians, 28.6% of dentists, 75.0% of pharmacists, and 66.2% of nurses were non-Bermudian.³⁸

Table 8. Number of Persons in Selected Occupations within the Medical and Health Professions

Profession	2000	2001	2002	2003	2004	2005	2006	2007	2008
Doctors	112	120	126	121	161	135	125	123	127
Dentists	26	24	27	28	31	32	30	28	31
Pharmacists	36	36	39	36	44	43	40	36	30
Professional Nurses	502	528	533	509	483	503	524	523	522

SOURCE: Annual Employment Survey, Department of Statistics

2.7 MEDICINES AND OTHER HEALTH PRODUCTS

Bermuda imports prescription drugs from several countries. There are no licensing requirements to import prescription drugs except those relating to drugs containing controlled substances according to the Misuse of Drugs Act 1972. The Pharmacy and Poisons Act 1979 licenses and regulates pharmacies and pharmacists. There is no national drug formulary; however, BHB does have its own drug formulary which listed 1,022 pharmaceuticals in 2009. Information regarding the total number of pharmaceutical products, the percentage of brand name and generic medicines, and the percentage of health expenditure that goes to medicines is not available.

³⁷ Department of Statistics. (2009). Bermuda. Digest of Statistics 2009. Government of Bermuda: Bermuda

³⁸ Department of Statistics. (2009). Bermuda. Digest of Statistics 2009. Government of Bermuda: Bermuda

3. MONITORING HEALTH SYSTEM REFORM

Bermuda's health care system has been undergoing a period of review for the past two decades. In the 1990's the island began addressing health sector reform and conducted a series of reviews of various aspects of Bermuda's health system as part of the reform process; specifically the Oughton Report,³⁹ the Arthur Andersen Reports,^{40,41,42} the Ernst & Young Report,⁴³ and the first Health System Profile.⁴⁴ The Oughton Report culminated in the creation of the Bermuda Health Council, established by the Health Council Act 2004 to "regulate, coordinate and enhance the delivery of health services". This profile is the first update since the Bermuda Health Council came into operation in 2006.

3.1 IMPACT ON HEALTH SYSTEM FUNCTIONS

The Ministry of Health is the primary steward of the health system. It conducts its stewardship functions with collaboration from the boards and councils which regulate health professionals, and in partnership with the Bermuda Health Council (BHeC). The BHeC secures input and collaboration on health system oversight and reform via its membership which is comprised of representatives from across the healthcare sector, including a range of professions, hospitals, insurers and patient and community representatives. There has been no change in the financing or service provision model in Bermuda, which remains largely private with approximately 70% of financing coming from the private sector and a majority of primary and secondary care coming from private providers. Since the publication of the 2005 Bermuda Health Systems and Services Profile there have been several health system reform initiatives.

Ministry of Health

In 2006 the Department of Health introduced Well Bermuda: A National Health Promotion Strategy which was updated in 2008. The aim of the strategy is to provide "a unifying vision and set of goals for a healthy Bermuda"⁴⁵ under three broad themes: healthy people, healthy families, and healthy communities. The three themes are further developed into 18 goals that define the national priorities, objectives and action areas for health promotion. Examples include encourage maintenance of a health body weight, reduce prevalence of diabetes and associated complications, promote positive parenting, promote a better quality of life for seniors, encourage smoke and drug free lifestyles, and stopping violence before it begins. In 2007 the Health Promotion Office oversaw the roll-out of five action plans for the goals on obesity, diabetes, seniors, disability, and parenting.

39 Health Care Review Sub-Committee. (1996). Health Care Review final Report (The 'Oughton Report'). Ministry of Health and Social Services: Bermuda.

40 Arthur Andersen. (1998). Creating Solutions that Work: A Report for the Ministry of Health and Family Services: Bermuda.

41 Arthur Andersen. (1999). Review of Physician Reimbursement Schemes: Report Prepared for the Ministry of Health and Family Services. Unpublished report for the Ministry of Health: Bermuda.

42 Arthur Andersen. (2000). Bermuda Healthcare System Redesign Initiative: A Report for the Ministry of Health and Family Services: Bermuda.

43 Ernst & Young. (2004). Report to the Permanent Secretary for Health. 17th August 2004. Unpublished report for the Ministry of Health: Bermuda.

44 Ramella, M. (2005). Bermuda Health Systems and Services Profile. Report for the Ministry of Health and Family Services. Government of Bermuda.

45 Attride-Stirling, J. (2008). Well Bermuda: A National Health Promotion Strategy (2nd Ed.). Government of Bermuda: Department of Health.

In 2008 the Department of Health opened the Sylvia Richardson Care Facility, to provide residential, nursing and day care to seniors in a multi-level, 43-bed, residential facility.

In April 2009 the Government launched FutureCare, a low-cost comprehensive health insurance plan for seniors. The plan was designed to improve health benefits for seniors, reduce the number of uninsured seniors, and create an affordable, comprehensive option for seniors.⁴⁶ Prior to FutureCare comprehensive private health insurance for seniors could cost in excess of US\$700 per month. FutureCare premium was US\$260 at inception. Benefits include the standard hospital benefit, plus supplemental benefits such as prescription drug, professional services, dental, vision, and overseas care.⁴⁷ Introduction of the plan generated a high-level of demand, with approximately 32% of the senior population enrolling in the plan by September 2009. In April 2010, eligibility is to be expanded to accommodate two-thirds of seniors in Bermuda. The benefits will remain the same and there will be two premium levels for 2009 enrollees and 2010 enrollees to ensure sustainability of the plan.

Following the 2009 Throne Speech, the Ministry of Health has been charged with developing a National Health Plan, which will represent the first attempt to modernize Bermuda's health system since the introduction of the Health Insurance Act in 1970.

Health Insurance Department

In 2009 the management and staff of Health Insurance Section were transferred from the Ministry of Finance to the Ministry of Health and reorganized as the Health Insurance Department (HID). The new department has responsibility for the day to day management and administration of the Health Insurance Plan, FutureCare, the Health Insurance Fund (HIF), the Mutual Reinsurance Fund (MRF), and the Government's hospitalization subsidy programmes. HID is currently engaged in a project to upgrade their information technology infrastructure to improve efficiency.

Bermuda Hospitals Board

In the past four years in particular, the Bermuda Hospitals Board (BHB) has undergone a series of developments representing significant reforms for Bermuda's health system. In November 2007 Government announced its intention to build an urgent care center in the east end of the island in order to improve access to care for the community, and reduce the strain on the emergency department at KEMH. The Lamb-Foggo Urgent Care Center was officially opened in April 2009 and is designed to handle urgent injuries and illnesses. The development was intended to be cost-neutral and shift patients from the emergency room at the main hospital. Early indications are positive but monitoring is underway to ascertain whether it introduced a transfer from primary care and/or stimulated new demand. Patient satisfaction has been positive and the facility has met the need for an area at risk during storms.

46 Minister of Health. (2009, March 19). Press Conference: FutureCare – A new health care programme for Bermuda's seniors. Government of Bermuda.

47 Health Insurance Department. (2009). FutureCare – A New Health Care Programme For Bermuda's Seniors. [Brochure]. Ministry of Health: Bermuda.

In 2008 approval was granted to expand the hospital and a redevelopment project for KEMH was developed. By 2009 BHB was in the final phase of the process to identify a private partner to design, build, finance and maintain new facilities on the existing KEMH site. The new facilities will include Bermuda's first dedicated day surgery unit; ambulatory care services like oncology, dialysis, asthma and diabetes; 90 single-occupancy en suite patient rooms; diagnostic imaging services; a new Emergency Room and a new utility plant.

In April 2009 KEMH implemented a new billing system based on Diagnostic Related Groups, which replaced the previous per diem billing. The new system was intended to be cost-neutral to the health system, but to promote a cost-shift from the government to the private sector. Monitoring mechanisms are in place between the BHB and payors to ascertain the impact on all stakeholders. It is expected that the new billing system will help to improve the quality and efficiency of hospital care by standardizing care and reducing length of stay and unnecessary tests.⁴⁸ In addition, in 2009 BHB introduced a hospitalist programme to enhance the quality of care.⁴⁹

In 2009 the BHB announced their "Unconditional Accreditation" by Accreditation Canada. This is the highest level of accreditation given by the body.⁵⁰

Bermuda Health Council

The BHeC came into operation in 2006. Core activities since then have revolved around assuring public access to essential health services through requirements for minimum health insurance coverage, and working closely with the Ministry of Health to enhance the regulatory framework for healthcare locally. In 2009, the BHeC developed a strategic plan detailing its goals for the health system, with a focus on working in partnership with all health system stakeholders. The agency's strategic goals are quality, equity, efficacy, and accountability.⁵¹ These goals aim to enhance the regulation of health services, health insurers, practitioners, and prescription drugs in order to assure quality and patient safety; assure equitable access to essential healthcare for all residents; promote developments in service provision and insurance to enhance the financial sustainability of the healthcare system; and ensure accountability and impartiality in all its functions.

Key reform initiatives underway by the BHeC include:

- ❖ Health Insurer Licensing Review – In 2009 the financial and claims data requirements for annual re-licensing of health insurers were increased in order to enhance knowledge and information on health system financing and expenditure.
- ❖ Upfront Payments Review – A review was conducted concerning the practice among healthcare providers of requesting full upfront payment from insured persons. This is considered a significant problem because of its potential to reduce access to health care.

48 Bermuda Hospitals Board. (2009, Spring). New Reimbursement Model. Pulse, BHB Newsletter, p1.

49 Bermuda Hospitals Board. (2008, Summer). BHB Introduces New Hospitalist Programme to Improve Patient Satisfaction. Pulse, BHB Newsletter, p1-2.

50 Bermuda Hospitals Board. (2009, March 6). Press Release: Bermuda Hospitals Board Achieves Highest Level of Accreditation. Retrieved January 21, 2010, from <http://www.bermudahospitals.com/bhb/news-media/article-print.asp?ItemID=174&Lang=EN>

51 Bermuda Health Council. (2009). Quality and Sustainability in Health Care: Bermuda Health Council Strategic Plan 2009-2012. Bermuda Health Council: Bermuda.

Sector guidelines were developed in collaboration with stakeholders which are pending implementation.

- ❖ Review of Regulatory Framework for Health Insurers – Policy options to enhance transparency and reduce moral hazard, cream-skimming, and adverse selection were developed and agreed with the Ministry of Health, and are in preliminary consultation stage with the Bermuda Monetary Authority (BMA - the regulatory agency for financial services including insurance companies) and the Ministry of Finance.
- ❖ Health Technology Assessment – A conceptual framework was developed for a mechanism to control the entry of health technologies to the health system, particularly those that impact on the cost of the SHB. The implementation plan for the framework is under development, in collaboration with key stakeholders.
- ❖ Physician Reimbursement Model Review – The BHeC engaged PricewaterhouseCoopers to conduct an analysis of regulated physician reimbursement fees in response to physicians concerns about reimbursement levels. The review concluded that regulated physician fees (i.e. for hospital-based treatment by non-salaried physicians) are on-par with commercial rates in US jurisdictions, including New York City.
- ❖ Prescription Drug Sector Review – The prescription drug sector is currently under review including the importation, wholesaling, and retailing of prescription drugs.

Regulations

In collaboration with professional statutory bodies and associations, and with assistance from the Bermuda Health Council, the Ministry of Health has introduced reforms to regulations for professionals including physicians, optometrists and opticians, and dentists. The amendments to the legislation aimed to improve quality of service, standards of professional practice and consistency of licensing regimes. Reviews of the Pharmacy and Poisons Act 1979, the Nursing Act 1997, the Public Health Act 1949, and Public Health (Food) Regulations 1950 are also at advanced stages of completion. Regulations are currently under development for complementary and alternative medicine professions and healthcare businesses, both of which are currently unregulated.

In December 2009 the Health Insurance Act 1970 was amended to move management responsibility for the Health Insurance Plan, the Health Insurance Fund, FutureCare, and the Mutual Reinsurance Fund from the BHeC to a new oversight body called the Health Insurance Committee. The members of the new entity are the Permanent Secretary of Health, the Financial Secretary, the Permanent Secretary with responsibility for financial assistance, the Chief Executive Officer of the BHeC, the public officer responsible for health insurance, and two other persons (non public officers) appointed by the Minister of Health.

Insurance

At the beginning of the 2009/10 fiscal year there were seven licensed health insurers operating in Bermuda (including approved schemes). By mid-year two companies had withdrawn from the market, one voluntarily, the other put into receivership by the BMA. The BMA and the Ministry of Finance collaborated with a private health insurer to make temporary arrangements for the displaced policy holders. In the fall of 2009 press reports highlighted that some private

health insurers had removed their low-cost plans for seniors.⁵² The Government's Health Insurance Plan was subsequently re-opened for seniors to enable access to affordable basic coverage for the population aged 65 years and over.

3.2 IMPACT ON GUIDING PRINCIPLES OF HEALTH SECTOR REFORMS

3.2.1 Equity and Access

The reforms to date have sought to reduce gaps in health insurance coverage for seniors, through FutureCare, and enhanced benefits in the affordable government plan. Evidence of impact is not yet available, but positive impacts may have been offset by the reduction of private options for seniors in 2009.

The total health expenditure per capita increased by 45.2% between 2003 and 2008, from US\$5,258 to US\$7,635. Public expenditure on health per capita increased by 53.6%, from US\$1,656 to \$2,544, in the same period. Public expenditure on health represented 14.8% of total health expenditure in 2003, and 16.3% in 2008. The last health profile reported that in 2004 high-income households spent 4.5% of income on health expenditure, while low-income households spent 10.3%. By 2007 the proportions were 3.3% in high-income households and 19.9% in low-income households.

The number of physicians per 10,000 population since 2000 has ranged from a high of 25.43 in 2004 to a low of 18.05 in 2000. In 2008 the ratio stood at 20.3. This figure fluctuates due to the necessary use of visiting consultant physicians, locums, and specialist surgeons from overseas. The ratio of professional nurses per 10,000 population since 2000 has ranged from a high of 84.93 in 2002, to a low of 76.28 in 2004. In 2008 the ratio of professional nurses per 10,000 population stood at 81.30.

The ratio of hospital beds per 1,000 population since 2000 has remained stable, ranging from a low of 5.15 per thousand in 2005/06 to a high of 5.49 per thousand in 2000/01. The ratio in 2007/08 stood at 5.31 per thousand.

In 2005 the Ministry of Health commissioned a study of public perceptions of the health system in Bermuda. Sixty percent of those surveyed indicated that they were "reasonably confident they could obtain the most advanced medical care in Bermuda" ⁵³ should they become seriously ill. Additionally, 75% felt that they would be able to gain timely access to non-emergency care.

52 Dale, A. & Robert, E. (2009, September 10). Minister flags up a sudden lack of private health insurers for seniors. The Royal Gazette. Retrieved February 11, 2010, from <http://www.royalgazette.com/rg/Article/article.jsp?sectionId=60&articleId=7d9953330030003>

53 Total Marketing and Communications. (2005). 2005 Public Perception Study. Ministry of Health and Family Services: Bermuda.

3.2.2 Effectiveness, Efficiency & Sustainability

Bermuda's infant mortality rate averaged 3.0 per thousand between 2003 and 2008, with a low of zero infant deaths in 2004, and a peak of 4.9 in 2008. There was one case of maternal mortality between 2003 and 2007. The leading cause of death has been diseases of the circulatory system, representing 31% to 46% of deaths between 2003 and 2006. Mortality due to neoplasms was the second leading cause of deaths in the same period, representing between 24% and 30% of all deaths. Following a campaign to promote testing, the number of HIV infections increased from 8 in 2002 to 22 in 2006. The Department of Health formulated an HIV/AIDS strategy in 2006. There were 3 confirmed cases of malaria and 11 confirmed cases of tuberculosis between 2000 and 2008; all were imported cases.

There has been no evidence of change in population access to drinking water or sewage and excretal disposal services over the past five years. The percentage of the health budget allocated to public health (the Department of Health) increased from 18.6% in 2003 to 19.8% in 2008.

Reforms to date have not had a substantive impact on the structure or financing of Bermuda's health system. Since the last health profile was produced in 2005, the system has remained a mixed private-public model for healthcare provision. The scope of regulated fees has remained unchanged, providers continue to be paid on a fee-for-service basis, and financing is largely private, with the proportion of health system financing coming from the public sector remaining constant at approximately 30%. The impact of the hospital's new DRG billing system has not been formally evaluated as yet.

3.2.3 Social Participation

Participation of civil society in the identification of problems, planning and implementation of health activities has seen positive activity since 2003. In 2004 the Department of Health worked collaboratively with community stakeholders to identify and agree the island's health priorities. In 2005 the Ministry of Health collaborated with the Pan American Health Organization to conduct the Essential Public Health Functions Assessment, with the active involvement of community partners. In 2006 the Department of Health developed the first National Health Promotion Strategy in consultation with stakeholders from across the healthcare sector and established a partnership committee to drive implementation of the strategy. Between 2007 and 2009 the Bermuda Health Council has consulted with health system stakeholders on a range of issues including legislative reforms and upfront payments. In 2008 the BHB enhanced its monitoring of patient satisfaction. In 2009 a private health insurer collaborated with government to assist displaced policy holders when a health insurance company went into receivership. Lastly, in 2009 the government began the rollout of FutureCare to improve seniors' access to comprehensive health insurance, in response to calls from the public to address the healthcare needs of this population.

BIBLIOGRAPHY

Arthur Andersen. (1998). Creating Solutions that Work: A report for the Ministry of Health and Family Services: Bermuda.

Arthur Andersen. (1999). Review of Physician Reimbursement Schemes: Report prepared for the Ministry of Health and Family Services. Unpublished report for the Ministry of Health and Family Services: Bermuda.

Arthur Andersen. (2000). Bermuda Healthcare System Redesign Initiative: A Report for the Ministry of Health and Family Services: Bermuda.

Attride-Stirling, J. (2008). Well Bermuda: A National Health Promotion Strategy (2nd Ed.). Government of Bermuda: Department of Health.

Bermuda Health Council. (2009). Quality and Sustainability in Healthcare: Bermuda Health Council, Strategic Plan 2009 – 2012. Bermuda Health Council: Bermuda.

Bermuda Hospitals Board. (2009, Spring). New Reimbursement Model. Pulse, BHB Newsletter, p1.

Bermuda Hospitals Board. (2008, Summer). BHB Introduces New Hospitalist Programme to Improve Patient Satisfaction. Pulse, BHB Newsletter, p1-2.

Bermuda Hospitals Board. (2009, March 6). Press Release: Bermuda Hospitals Board Achieves Highest Level of Accreditation. Retrieved January 21, 2010, from <http://www.bermudahospitals.com/bhb/news-media/article-print.asp?ItemID=174&Lang=EN>

Bermuda Hospitals Board. (2010). About Diabetes. Retrieved January 16, 2010, from <http://www.bermudahospitals.bm/diabetes/overview.asp>

Bermuda's per capital homicide rate was more than five times London's rate in 2009. (January 9, 2010). The Royal Gazette. Retrieved February 7, 2010 from <http://www.royalgazette.com/rg/Article/article.jsp?sectionId=60&articleId=7da14ab3003000c>

Central Policy Unit. (2006). Charting our Course: Sustaining Bermuda. The Cabinet Office: Government of Bermuda. Retrieved January 18, 2010 from http://www.gov.bm/portal/server.pt/gateway/PTARGS_0_0_12617_0_0_43/http;/ptpublisher.gov.bm;7087/publishedcontent/publish/new_sustainable_development/strategy_and_implementation_plan/sd2008.pdf?qid=07753835&rank=1

Department of Health. (2007). The Department of Health: Annual Report 2007. Government of Bermuda: Bermuda.

Crime: The ten year statistics. (December 7, 2007). The Royal Gazette. Retrieved February 7, 2010, from <http://www.royalgazette.com/rg/Article/article.jsp?sectionId=60&articleId=7d7c3b73003000b>

Dale, A. & Robert, E. (2009, September 10). Minister flags up a sudden lack of private health insurers for seniors. The Royal Gazette. Retrieved February 11, 2010, from <http://www.royalgazette.com/rg/Article/article.jsp?sectionId=60&articleId=7d9953330030003>

Department of Health. (1999). Adult Wellness Survey. Health Promotion Office. Government of Bermuda.

Department of Health. (2005). Health Priorities Report. Government of Bermuda

Department of Health. (2005). Report on the Performance Measurement of Bermuda's Essential Public Health Functions. Unpublished Report from the Ministry of Health: Bermuda.

Department of Health. (2010). 2010 – 2011 Directory of Services, Department of Health. Government of Bermuda: Bermuda.

Department of Health. (2007). Health Survey of Adults and Children in Bermuda 2006. Government of Bermuda.

Department of Statistics. (2002). Report on the 2000 Census of Population and Housing. Census Office, Government of Bermuda.

Department of Statistics. (2006). Mid-Year Population Projections July 1, 2000 to July 1, 2030. Government of Bermuda. Retrieved January 15, 2010, from http://www.gov.bm/portal/server.pt/gateway/PTARGS_0_2_980_227_1014_43/http%3B/ptpublisher.gov.bm%3B7087/publishedcontent/publish/cabinet_office/statistics/dept___statistics___additonal_files/articles/bermuda_population_projections_2000_2030___main_report_0.pdf

Department of Statistics. (2006). Literacy in Bermuda: A Study of Adult Literacy and Life-Skills in Bermuda. Government of Bermuda: Bermuda.

Department of Statistics. (2007). Young Bermudian Adults and Literacy. Government of Bermuda: Bermuda.

Department of Statistics. (2008). 2008 Employment Survey Tabulations. Retrieved February 9, 2010, from http://www.gov.bm/portal/server.pt/gateway/PTARGS_0_2_978_227_1014_43/http%3B/ptpublisher.gov.bm%3B7087/publishedcontent/publish/cabinet_office/statistics/dept___statistics___employment_briefs/2008_employment_survey_tabulations_0.pdf

Department of Statistics. (2008). Low Income Thresholds, A Study of Bermuda Households in Need. Government of Bermuda: Bermuda.

Department of Statistics. (2004). Facts and Figures 2004. Government of Bermuda.

Department of Statistics. (2007). Facts and Figures 2007. Government of Bermuda.

Department of Statistics. (2008). Facts and Figures 2008. Retrieved February 6, 2010, from http://www.gov.bm/portal/server.pt/components/com_joomlplib/standalone//gateway/PTARGS_0_2_980_227_1014_43/http%3B/ptpublisher.gov.bm%3B7087/publishedcontent/publish/cabinet_office/statistics/dept___statistics___additonal_files/articles/facts_and_figures_2008_0.pdf

Department of Statistics. (2009). 2009 Bermuda Statistics Digest. Section 1- Population. Government of Bermuda: Bermuda.

Department of Statistics. (2009). Facts and Figures 2009. Retrieved February 6, 2010, from http://www.gov.bm/portal/server.pt/components/com_joomlplib/standalone//gateway/PTARGS_0_2_980_227_1014_43/http%3B/ptpublisher.gov.bm%3B7087/publishedcontent/publish/cabinet_office/statistics/dept___statistics___additonal_files/articles/facts_and_figures_2009_0.pdf

Department of Statistics. (2009). Labor Market Indicators. Government of Bermuda: Bermuda.

Epidemiology and Surveillance Unit. (2009). 2008 Annual Report on HIV/AIDS in Bermuda. Government of Bermuda.

Epidemiology & Surveillance Unit. (2005). Selected Causes of Death 2003 to 2005. Department of Health. Government of Bermuda.

Ernst & Young. (2004). Report to the Permanent Secretary for Health. August 17, 2004. Unpublished report for the Ministry of Health: Bermuda.

Government of Bermuda. (2009). Approved Estimates of Revenue and Expenditure for the Year 2009/10. Government of Bermuda: Bermuda.

Health Insurance Department. (2009). FutureCare – A New Health Care Programme For Bermuda's Seniors. [Brochure]. Ministry of Health: Bermuda

Health Care Review Sub-Committee. (1996). Health Care Review final Report (The 'Oughton Report'). Ministry of Health and Social Services: Bermuda.

Lalta, S. (2005). Trip Report: Bermuda Performance of Essential Public Health Functions, February 20-26, 2005. Unpublished PAHO Report: PAHO, Jamaica.

Minister of Health. (2009, March 19). Press Conference: FutureCare – A new health care programme for Bermuda's seniors. Government of Bermuda.

Ministry of Health. (n.d.). Mission Statement. Retrieved January 14, 2010, from http://www.gov.bm/portal/server.pt?open=512&objID=267&&PageID=1750&activetab=TabCTRL_DropDownTabsGovernment1&mode=2&in_hi_userid=2&cached=true

Profiles of Bermuda. (2008). Research Review: An Analysis for the Bermuda Health Council. Bermuda Health Council: Bermuda.

Ramella, M. (2005). Bermuda Health Systems and Services Profile. Report for the Ministry of Health and Family Services. Government of Bermuda.

United Nations. (2005). United Nations World Population Prospects: The 2004 Revision. Retrieved January 15, 2010, from http://www.un.org/esa/population/publications/WPP2004/World_Population_2004_chart.pdf

LIST OF ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
BHB	Bermuda Hospitals Board
BHB Act	Bermuda Hospitals Board 1970
BHeC	Bermuda Health Council
BHeC Act	Bermuda Health Council Act 2004
BMA	Bermuda Monetary Authority
CARICOM	Caribbean Community and Common Market
CPI	Consumer Price Index
DEP	Department of Environmental Protection
DoH	Department of Health
GDP	Gross Domestic Product
GP	General Practitioner
HI Act	Health Insurance Act 1970
HIF	Health Insurance Fund
HIP	Health Insurance Plan
HIV	Human Immunodeficiency Virus
HPO	Health Promotion Office
KEMH	King Edward VII Memorial Hospital
MDG	Millennium Development Goals
MRF	Mutual Reinsurance Fund
MWI	Mid-Atlantic Wellness Institute
OECD	Organization for Economic Co-Operation and Development
PH Act	Public Health Act 1949
SHB	Standard Hospital Benefit
TIEAs	Tax Information Exchange Agreements
QUANGO	Quasi-Autonomous Non-Governmental Organization



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