Bermuda Health Systems and Services Profile

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Executive Summary

Bermuda, the oldest self-governing British Overseas Territory, covers an area of approximately 54 km^2, and has a system of Government based on the "Westminster Model" of parliamentary democracy. Bermuda has one of the highest GDP per capita in the world, estimated to be above BDA$65,500 for 2004. The economy, primarily based on international business and tourism, has enjoyed steady growth in recent years.

The 2000 Census determined Bermuda's population to be 62,059, that is, 6% higher than in the 1991 Census. While 11% of it is aged 65 and over (up 25% from 1991 figures), 6% is under 5 years old (down 2% from 1991). In 2000, 60% of the population was black or mixed black, and 40% was white or other racial background. Regarding relative income, 'Poor' and 'Near poor' households accounted for 19% and 11%, respectively, of all households in 2000 (the same as in 1991); while 'Middle Class' and 'Well-to-Do' households constituted 42% and 27% (46% and 24% in 1991). Black, Bermudian, and senior-headed households are over-represented in low income households and under-represented among high income ones.

Life expectancy in Bermuda in 2000 was 77.67 years, 80.44 for women and 74.74 for men, placing it among the highest in the world; however, disparities can be observed between Blacks and Whites. Bermuda also performs at excellent levels with respect to infant mortality (between 0 and 6 per 1,000 in the past seven years) and maternal mortality (no cases in the past seven years). Underpinning these successes is a comprehensive maternal health care system. Another area of excellent quality is the prevention, detection and care of communicable diseases. Regarding HIV/AIDS for example, here has been a decreasing trend in HIV cases in recent years (e.g. 20 new cases in 1999, 15 in 2001 and 10 in 2003). HAART (Highly Active Anti Retroviral Therapy) was made universally accessible in 1998 through a programme led by the Ministry of Health and Family Services.

Bermuda's health care system is regarded very positively by the public. For example, in 2005, 71% of residents considered it to be excellent or good. Further, two in three residents reported being able to see a physician within 24 hors of seeking care.

Bermuda's organisational model for the health services is made up of loosely linked private and public sub-sectors. The private for-profit sub-sector plays a large role in both service provision, especially primary care, and financing, in particular health insurance based funding. In

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2000, 95% of Bermuda residents enjoyed some kind of health insurance coverage. The public sector delivers most population-based services, some preventative and primary care, most non-personal services, and most of the secondary care and psychiatric care provided in Bermuda (through Bermuda's only two hospitals). The contribution of non-profit organisations is proportionately small.

In 2004, Bermuda's health system consumed over BDA$376 million, representing 9.05% of GDP; that is, nearly BDA$6,000 per capita. The largest two sources of funding were private insurers, with over BDA$191 million (51%), followed by Government, with BDA$110 million (29%), which is 15% of the total Government expenditure. Household financing, that is, the out-of-pocket monies paid by Bermuda residents when purchasing health care (e.g. a co-payments of services and products covered by health insurance or full payments, if not covered by insurance), constituted the third source of financing of Bermuda's health sector, with over BDA$57 million (15%). The non-profit sector contributed BDA$12.9 million, i.e. 4% of the total share in 2004. Over the past decade, there has been an increase in the share of private sector financing (from 61% in 1993 to 70% in 2004) and a decrease in the share of public sector financing (from 39% in 1993 to 30% in 2004).

Regarding health expenditure, the Bermuda Hospitals Board take up the largest share (over BDA$140 million or 38% of all expenditure), followed by local providers, including care for the elderly with BDA$107 million (28%), overseas care with BDA$40 million (11%), and spending on drugs, with BDA$36 (10%). The latter has experienced the steepest increase in the past five years, from 6% in 2000 to 10% in 2004. The Ministry of Health and Family Services accounts for 7% of all expenses (BDA$26.9 million). Health systems costs have grown faster than the economy in the past 15 years, i.e. 8.7% and 5.0% per year respectively in the period 1990– 2004.

Bermuda's health system delivers excellent levels of care. The distribution of care and financing, however, show some inequities. The very high life expectancy, extremely low infant and maternal mortality, and excellent record on HIV/AIDS prevention, detection and treatment are proof of the high quality of Bermuda's level of health care. However, disparities in life expectancy, insurance coverage and distribution of health financing, in particular affecting low-income, senior-headed and black households, indicate the existence of pockets of inequity. The Bermuda Health Council, established by the Bermuda Health Council Act 2004, has been mandated to address these and other issues relating to the island's health system.

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Chapter 1: Context[1]

Political[2]

Bermuda is the oldest self-governing British Overseas Territory. It covers an area of approximately 54 km^2 and is divided in nine parishes: Sandys, Southampton, Warwick, Paget, Pembroke, Devonshire, Hamilton, Smiths and St. Georges. The City of Hamilton is the capital of Bermuda. The Territory's government consists of a Governor, appointed by and representing the British monarch, a Deputy Governor, appointed by the Governor, a Cabinet, and a Legislature. The Legislature is based on two chambers: a Senate and a House of Assembly. The Constitution of Bermuda, introduced in June 1968 and amended in 1973, 1979, 1989, 2001 and 2003, contains provisions relating to the protection of fundamental rights and freedoms of the individual; the powers and duties of the Governor; and the composition, powers and procedure of the Legislature, the Cabinet, the Judiciary, and the Public Service.

Bermuda's system of government is based on the "Westminster Model" of parliamentary democracy. It is a system that relies heavily upon the existence of organized political parties, each laying policies before the electorate for approval. The party who wins the most seats at a general election, or who has the support of a majority of members in the House of Assembly, forms the Government. The largest minority party becomes the official opposition with its own leader and "Shadow Cabinet". The Cabinet is responsible to the Legislature.

The Legislature is made up of a House of Assembly and a Senate. The House of Assembly comprises 36 members elected by universal adult suffrage. Members sit for a term of five years, unless the House is dissolved earlier. Bermuda is divided into 36 constituencies, each represented by one member in the House. The Senate comprises of 11 members appointed by the Governor. According to Bermuda's Constitution, five members of Senate are appointed on the recommendation of the head of the Executive, the 'Premier, and represent the governing party.

[1] This paper was produced following the methodological guidance detailed in the PAHO "Guidelines for the Preparation of Health System Profiles for the Countries of the Region (2nd Edition, 11 June 2000)". The author acknowledges the participation of, and expresses gratitude to, a large number of individuals and organisations in the Government of Bermuda, and in Bermuda's private sector who contributed information.
[2] See Bermuda Government web-site; Foreign and Commonwealth Office web-site.

Three members are appointed on the recommendation of the Leader of the Opposition and represent the official opposition party. Finally, three Senators are appointed as independents. The main functions of the Legislature are to pass laws; to provide, by taxation, the means to carry out the work of Government; and to scrutinize Government policy and administration.

According to the Constitution, the Cabinet should consist of the Premier and at least six other Ministers, usually members of the Legislature. In 2005, there were 12 Ministers in the Cabinet. The Governor appoints the majority leader in the House of Assembly as Premier, who in turn nominates the other members of Cabinet. They are assigned responsibilities for Government Departments and other business. The functions of the Cabinet are, among others: the final determination of policies, the supreme control of Government and the co-ordination of Government departments. The Cabinet meets in private, normally for a few hours once a week, and its proceedings are confidential. Its members are bound by oath not to disclose information about its proceedings. Ministerial responsibility refers both to the collective responsibility that Ministers share for Government policy and actions, and to each Ministers' individual responsibility to Parliament for work under his or her department.

Within the Cabinet, the Ministry of Health and Family Services (MoH) has the leading role with respect to health policy. The MoH sets public policy and reports to the Cabinet. The MoH is responsible for health planning and evaluation. There is no central planning agency. The Ministry has a mandate to promote and protect the health and well being of Bermuda's residents, and is charged with assuring the provision of health care services, setting standards, and coordinating the health care system.

The Ministry of Finance (MoF) also plays an important part in shaping health policy, in particular in matters related to the regulation of the health insurance market, which is largely in the hands of private insurers. Other ministries involved in health policy, although to a lesser extent are, the Ministry of Education and Development (MoE) (e.g. school health policy), the Ministry of Transport (MoT) (e.g. road safety policy), and the Ministry of Community Affairs and Sports (MoCAS) (e.g. protection of rights of clients of the health system).

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Bermuda does not appear to be much different from other high-income Western countries with respect to social and economic problems impacting on health. Key problems are[3], in no order of importance: the ageing population, the rising costs of health care, health-damaging lifestyles (e.g. unbalanced diet, sedentary lives, excessive car use, etc.), and social inequalities (e.g. income distribution, social exclusion, etc.).

Economic

Bermuda has one of the highest per capita incomes in the world. As shown in the table below, the estimated per capita GDP in 2004, in current Bermuda Dollars (BDA$)[4], is above BDA$65,000. Its economy has enjoyed a combination of growth and stability in recent years. In addition, current as well as constant per capita GDP have been steadily growing. Macroeconomic forecasts and current fiscal and monetary policies appear to indicate that there are no particular signs that the trend observed in the recent past will suffer major changes in the near future.

SELECTED ECONOMIC INDICATORS

	Year						
Indicator	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Per capita GDP in current BDA$ prices	49,098	52,286	53,619	55,586	60,475	62,279	65,692
Per capita GDP in constant BDA$ prices	45,870	47,398	48,045	48,896	52,022	52,617	54,179
Total population (mid-year estimate)	62,180	62,588	62,999	63,252	63,098	63,687	63,397
Economically active population (n. of jobs filled)	35,323	37,849	37,978	37,597	37,815	37,686	38,259
Total public spending as a percentage of GDP	17.5	16.5	16.7	16.6	16.0	16.3	17.7
Government Expenditure (BDA$ thousand)	533,432	540,758	562,800	583,178	610,900	647,372	736,629
GDP in current prices (BDA$ thousand)	3,052,904	3,272,452	3,377,929	3,515,951	3,815,873	3,966,334	(*) 4,164,651
Public spending on social programs as a % of GDP	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Annual rate of inflation	2	2.4	2.7	2.9	2.3	3.2	3.6

(*) Author's estimate (based on a 5% growth of GDP for 2004).
Sources: Department of Statistics and Ministry of Finance.

[3] See PAHO 1998, 2002; see findings in chapters two and three below.
[4] 1 BDA$ = 1 US$.

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Bermuda's economy is primarily based on international business and tourism. The largest concentration of international companies is involved in the insurance and financial services sectors. International company business is the largest sector of Bermuda's economy accounting for 16% of GDP; according to data from the MoF this figure rises to approximately 30% if additional benefits upon Bermuda's other economic sectors are included. Bermuda is regarded as a premier offshore financial centre because of its long established and highly developed commercial infrastructure and the absence of corporate income tax. Tourism was Bermuda's largest economic sector until the mid-1990s, but has since given way to the growth in the international business industry. Bermuda caters to affluent travellers and approximately 80% of the visitors arriving in Bermuda come from the USA. As a result, performance of the sector is somewhat dependent on the overall economic environment in the USA. Most capital equipment and food is imported. Bermuda's industrial sector is small, although construction continues to be important; the average cost of a house in June 2004 had risen to over BDA$ one million. Agriculture is limited, only 6% of the land being arable.

The Government policy on borrowing has been consistently conservative. For the past twenty years, Government revenues have exceeded Government current expenditure. Modest deficits have been incurred only for capital expenditures. It is the Government's stated policy to keep all Government borrowing to a level below 10% of GDP. Furthermore, there is a statutory limit on Government debt of BDA$250 million. The Government's debt stood at BDA$162.3 million in 2003 (i.e. under 4.5% of GDP). Bermuda has never defaulted on its debt obligations.

Demographic and Epidemiological Context

Life expectancy in Bermuda has shown a trend of steady increase in the past decades, and it currently stands among the highest in the World (i.e. among the 25 top countries). While in 1950 a newly born baby was expected to live to just under 65 years of age, this figure had risen to over 70 in 1970, and to under 77 years in 2000.

With respect to sex, while life expectancy has grown for both sexes, women show consistently higher figures than men. According to data from National Censuses, while in 1980 a newly born baby girl was expected to live to 76 years of age and a boy to 69, by 1991 these figures had risen to 78 and 70 respectively, and to 80 and 74 in 2000.

If we look at life expectancy at birth, according to race, a gap can be observed between white and black members of the population. This gap was of just over 5 years in 1950 (i.e. 68.04 years of life expectancy for whites and 63.03 for blacks); by 2000 it has closed to 3.78 years, that is, by just over one year (i.e. 80.37 for whites and 76.59 for blacks). Life expectancy data in Bermuda for the period 1950 – 2000 is summarised in the table below.

LIFE EXPECTANCY AT BIRTH BY SEX, RACE, AND CENSUS YEAR

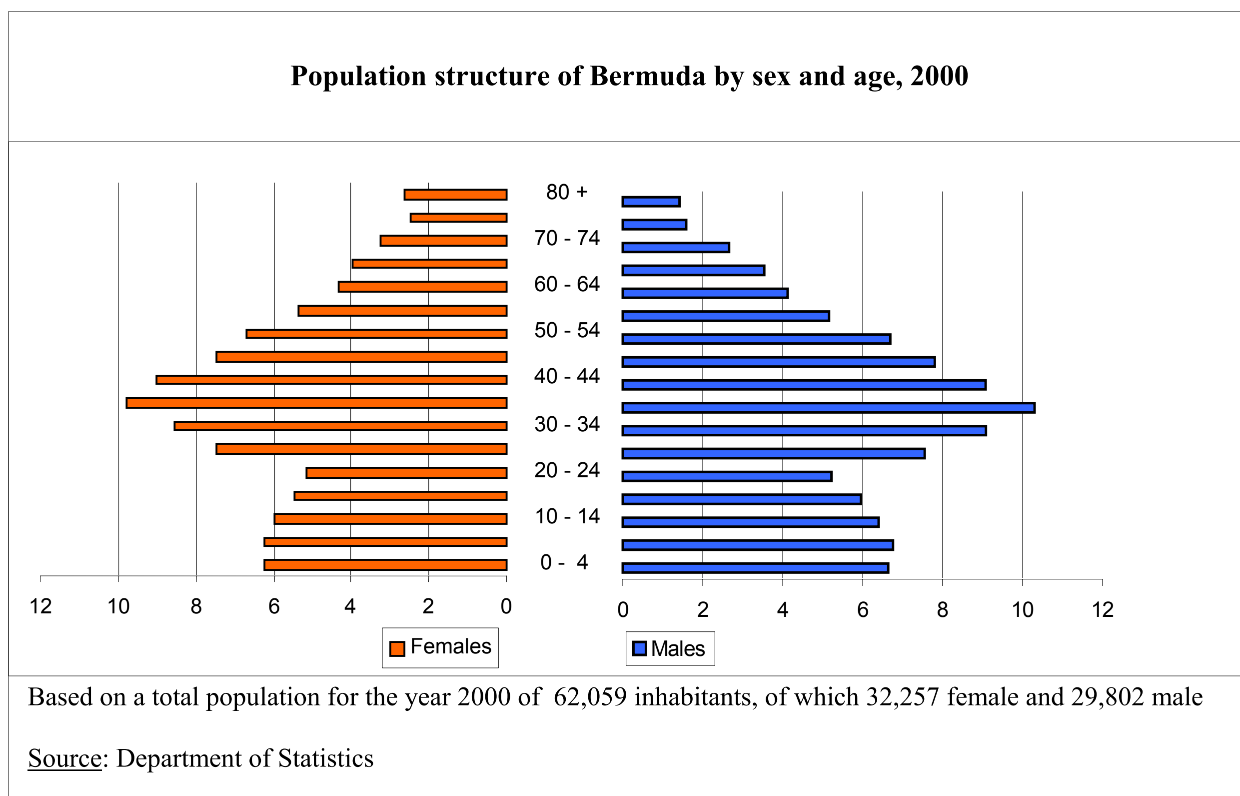
	Census year					
	1950	**1960**	**1970**	**1980**	**1991**	**2000**
All Races						
Both Sexes	64.85	67.85	70.32	73.11	74.34	77.67
Male	62.27	64.8	68.33	69.27	71.06	74.74
Female	67.48	71.16	75.06	77.14	77.78	80.44
Black						
Both Sexes	63.03	65.25	68.5	72.26	72.39	76.59
Male	61.28	62.22	65.51	67.98	68.25	73.25
Female	64.84	68.68	72.7	76.98	76.81	79.69
White						
Both Sexes	68.04	71.78	74.32	74.11	77.25	80.37
Male	64.43	69.01	70.79	71.06	75.46	78.41
Female	72.06	74.83	78.24	77.52	78.90	82.17

Source: Department of Statistics

Between 1980 and 1991, the total population of Bermuda grew by 8%, from 54,050 to 58,460 inhabitants. The growth rate was lower in the following decade with 2000 Census figures showing a total population of 62,059, that is, 6% higher than in 1991. As data presented in the table below shows, in the past seven years, birth rate in Bermuda has stayed between 13 and 14 babies born for every 1,000 inhabitants. The population group aged '65 and over' showed the steepest increase, growing by 21% and 25% in the 1980/1991 and 1991/2000 periods, respectively. On the other hand, the 'under 5' population group grew by 9% in the 1980/1991 period, and fell by 2% between 1991and 2000. By 2000, while 11% of Bermuda's population was aged 65 or older, the 'under 5' segment represented 6%. These trends have had an effect on

the median age of Bermuda's population, which, according to National Censuses data, grew from 29 in 1980 to 37 in 2000. Total Dependency Ratios showed the following trend: 45, in 1980; 40, in 1991 and 43 in 2000[5]. It should be noted that while Old-Aged Dependency Ratio grew from 12 in 1980, to 13 in 1991 and 15 in 2000, Youth Dependency Ratio fell from 33 in 1980 to 27 in 1991, staying at 27 in 2000.

Population structure of Bermuda by sex and age, 2000



Based on a total population for the year 2000 of 62,059 inhabitants, of which 32,257 female and 29,802 male

Source: Department of Statistics

The graph above provides information on the population structure of Bermuda, by age and sex, according to data from the 2000 National Census.

Trends in population growth vary between Bermudians and Non-Bermudians. For example, in the period 1991/2000 the number of Bermudians aged 65 and over grew by 28% (from 4,894 to 6,256), while the number of Non-Bermudians fell by 8% (from 500 to 458). Further, between 1991 and 2000, Bermudians aged 30 to 64 increased from 21,034 to 23,646, or a 12% growth. In the same period, the same age group of Non-Bermudians increased from 6,607 to 8,395, that is, 27% growth. In addition, by 2000 Non-Bermudians made up 21% of the total population (i.e.

[5] 'Total Dependency Ratio' is made up by adding 'Youth Dependency Ratio' (i.e. number of persons under 15 per one hundred persons aged 15 to 64) and 'Old-Aged Dependency Ratio' (i.e. number of persons aged 65 or older per one hundred persons aged 15 to 64).

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13,525) but they contributed to 26% of the 30 to 64 age-range (i.e. 8,395 of 32,065). The figures above show that Bermuda seems to attract economic migrants who move to the island in their working years and leave it as they retire.

The table presented below summarises main indicators with respect to birth, fertility and mortality. There have not been cases of maternal mortality in the period 1998 – 2004, placing Bermuda in an extremely strong position and reflecting the comprehensiveness of the health care system regarding maternal health (for details see section Service Delivery, below). In addition and following from this, infant mortality has been kept at extremely low levels in recent years. As the statistics below demonstrate, Bermuda is performing excellently in these two areas.

FERTILITY, BIRTH AND MORTALITY

Indicator	Year						
	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Crude birth rate (per 1,000 persons)	13.27	13.17	13.29	13.14	13.15	12.84	12.95
Total fertility rate	2.33	2.35	2.45	2.35	2.35	N/D	N/D
Crude death rate	8.25	7.25	7.57	7.13	6.54	N/D	N/D
Maternal mortality rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Infant mortality rate	1.21	3.64	0.00	6.02	1.20	N/D	N/D

Source: Registry General, Department of Statistics and Bermuda Hospitals Board

Looking specifically at mortality data, the latest available figures, i.e. for year 2002, indicate that 413 deaths occurred in that year. Circulatory illnesses were the major cause, accounting for 40% of all deaths (n=163 individuals). The second major cause were malignant neoplasms, with 30% of deaths (n=124). Circulatory illnesses and malignant neoplasms together accounted for 265 deaths, that is, 70% of all deaths. Ill-defined causes were the third largest category with 16% of deaths in 2002 (n=65). Respiratory diseases accounted for 22 deaths, or 5% of total deaths. AIDS caused 12 deaths (3%), while diabetes and chronic renal diseases caused 17 deaths (9 and 8 deaths respectively). Accidents and violence caused 6 deaths. Finally there were 3 suicides and one death by overdose.

Circulatory illnesses and malignant neoplasms (cancer) were the main two causes of deaths in the period 1999 to 2002, consistently accounting for 70% off all deaths. In 1999 they accounted for 314 deaths (176 and 138 respectively) of a total of 451. In 2000, out of 500 deaths, they caused 350 (208 and 142 respectively), while in 2001, out of a total of 447 deaths they caused

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305 (181 and 124 respectively). Finally, with respect to mortality by race in relation to Bermuda's two major causes of deaths, data available for 2001 show that in that year while deaths from circulatory diseases followed that of Bermuda's race breakdown, blacks were over-represented in deaths from cancer, although this was not statistically significant[6]. Out of 100% of deaths from circulatory diseases (n=181), 63% (n=114) were of black or mixed black and 37% (n=67) were of white or mixed white; in line with 2000 National Census figures of 63% black or mixed black and 37% white or mixed white[7]. On the other hand, deaths from cancer data show that in 2001, out of 100% of deaths (n=124), 66% (82 cases) were black or mixed black, and 34% (n=42) were of white or mixed white[8].

With respect to traffic fatalities, and according to Bermuda Police official records, there have been six such casualties in 2000, 11 in 2001 and 1 in 2002. Of the six deaths in 2000, 4 were motorcycle drivers (or passengers) and two pedestrians; of 2001 casualties, nine were motorcycle drives (or passengers), and 2 were bicycle drivers (or passengers). Infant deaths in the past years were as follows: 1 in 1998, 3 in 1999, none in 2000, 5 in 2001 and 1 in 2002. In 1999 and 2001, there were 4 cases of stillbirths, two in each year. We conclude this section on mortality data in Bermuda by noting that, very importantly, there is no unregistered mortality in the island.

Looking at morbidity, according to DoH data, influenza appears to be the most prevalent communicable disease; incidence figures for 2003 yield 678 influenza cases. The disease however, has shown a downward trend in the past years, with 2,320 cases in 1999, 815 in 2000, 980 in 2001 and 766 in 2002. It should be noted that a vaccination programme has been in place in the past decade[9], with over 1,500 vaccines administered through Government operated clinics in 2003 (620 to under 65s, 818 65s and over, for a total of 1,545 doses). Partial data from private practices shows that at least over 1,200 vaccines were administered by private providers.

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[6] $\chi^2 = 0.552$, $df = 1$, $p = 0.457$.
[7] The 63% black/mixed-black and 37% white/mixed-white figures were obtained by reducing the full racial breakdown, recalculating it without including the Asian and the Other categories. The full racial breakdown for 2000 is provided in Social Context section below.
[8] Further research is needed to ascertain if 2001 data indicate a particular year with respect to mortality by race in relation two circulatory diseases and cancer, or illustrate a larger pattern.
[9] The influenza immunization programme was introduced in 1993. Between 1993 and 1998 the vaccines administered were Ped-vac or hib types, from 1999 Pentacel was introduced.

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With respect to diseases included in the Expanded Programme on Immunization (EPI), DoH data show that the incidence of mumps, measles and rubella has been negligible, with no cases of measles in the past five years, and a peak of 4 cases of mumps in 2003. If we look at other diseases of Caribbean interest, acute respiratory infections in under fives and gastroenteritis show the highest incidence with 365 and 319 cases respectively in 2003.

Looking at DoH information on sexually transmitted infections (STIs), chlamydia and gonorrhoea show the highest incidence, with 281 and 45 new cases respectively in 2003. While gonorrhoea appears to have peaked in 2000 (106 cases) and is now experiencing a downward trend (97 cases in 2001 and 71 in 2002), chlamydia seems to show an upward trend. Indeed, there were 223 new cases in 1999, 284 in 2000, 267 in 2001, 265 in 2002 and 281 in 2003[10]. Looking at 2003 chlamydia data, 219 cases or 78% of the total were women. Further, 118 of the 219 cases were verified in women aged 20 to 29.

Finally, a full picture of incidence of main communicable diseases in Bermuda over the period 1997 – 2003 appears provided in the table below.

[10] It should be noted that in 2003 the DoH commenced the introduction of a new, more sensitive, method for testing chlamydia that may have influenced the data. Indeed, preliminary DoH data for 2004 show 457 cases of chlamydia.

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COMMUNICABLE DISEASES IN BERMUDA

Condition	1997	1998	1999	2000	2001	2002	2003
Diseases under international surveillance							
AIDS	21	18	19	19	12	8	11
Malaria	2	2	-	-	-	-	-
Influenza	1671	1361	2320	815	980	766	678
Diseases of EPI							
Tb pulmonary	3	-	-	1	-	-	1
Tb other	2	1	-	-	-	-	2
Pertussis	3	2	-	2	-	-	2
Tetanus	-	1	1	-	-	-	-
Mumps	-	-	-	-	2	1	4
Rubella	-	-	1	-	-	-	-
Measles	-	-	-	-	-	-	-
Other diseases of regional interest							
N meningitides	1	-	1	1	-	1	1
Syphillis	8	5	10	15	7	13	1
Gonoccocal	55	93	79	106	97	71	45
Chlamydia	116	148	255	284	267	259	279
Neonatal conjunctivitis/chlamydia	-	-	-	3	-	1	1
Other diseases of Caribbean interest							
Foodborne illness	15	1	5	49	23	38	56
Gastroenteritis < 5 years	190	38	115	210	188	124	146
Gastroenteritis > 5 years	-	587	61	220	85	81	173
Hepatitis A	4	2	-	3	4	1	1
Hepatitis B	1	1	2	1	-	6	7
Viral hepatitis unspecified	-	-	-	2	-	7	5
Acute respiratory infections < 5 years	130	207	96	284	398	582	365
Other diseases							
Salmonella	15	52	47	73	69	71	89
Shigella	-	-	2	1	0	1	-
Meningitis – H Influenza	-	-	-	1	0	1	0
Viral meningitis	8	1	-	11	5	2	8
Scabies	-	5	8	3	3	3	3
Herpes	49	47	52	44	31	32	34
Chickenpox	181	434	626	46	116	70	141
NSU	68	71	68	63	115	104	121

Source: Department of Health

In relation to Human Immunodeficiency Virus (HIV), Bermuda registered its first case in 1985. To date, as the table below indicates, 533 HIV cases have been reported. HIV incidence in Bermuda has shown downward trend in recent years. Indeed, DoH data on new cases for the period 1999 – 2003 show the following tendency: 20 in 1999, 15 in 2000, 15 in 2001, 9 in 2002 and 10 in 2003. Regarding public health actions taken in relation to HIV prevention and

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treatment, Bermuda responded to the problem by setting up a first-rate cross-sectoral system of prevention and care. Indeed, AZT treatment was made available in 1987, and pre-natal testing commenced in 1987; further, HAART (Highly Active Anti Retroviral Therapy) started in 1997 and was made universally accessible in 1998 through a MoH programme.

Looking at Acquired Immune Deficiency Syndrome (AIDS) data for Bermuda, information presented in the table below depicts the following situation. There have been 487 registered cases of AIDS in Bermuda since the first HIV detection in the early 1980s. Of these, 79% or 387 have caused the death of the infected individual. The age group 30 to 39 years old accounts for nearly half of all cases (45%), while those aged 20 to 29 account for 10% of all cases. It is to be noted however, that in 2003 two of the ten new AIDS cases belong to this age group. With respect to sex, 76% are men. Very importantly, when we look at the race breakdown, we notice that over nine in ten of all AIDS cases are black individuals (i.e. 91% black and 9% white). Finally, with respect to the risk factors involved in HIV transmission, 39% was accounted by intra-venous drug use, 30% by homo/bisexual contact and 26% by heterosexual contact.

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HIV/AIDS IN BERMUDA

Indicator	1985-1989	1990-1999	2000	2001	2002	2003	Total	
	N	N	N	N	N	N	N	%
HIV								
New cases		484	15	15	9	10	533	
AIDS								
New cases	135	302	19	12	8	11	487	100
Deaths	103	244	9	7	14	10	387	79
Age group								
<15	1	3	0	0	0	0	4	1
15-19	0	0	0	0	0	0	0	0
20-29	24	22	1	0	0	2	49	10
30-39	77	126	7	4	3	1	218	45
40-49	24	106	6	7	5	8	156	32
50-59	6	36	4	0	0	0	46	9
60+	3	9	1	1	0	0	14	3
Race								
Black	123	274	18	11	7	8	441	91
White	12	28	1	1	1	3	46	9
Sex								
Male	111	223	12	11	6	7	370	76
Female	24	79	7	1	2	4	117	24
Risk factor								
Intra-venous Drug Use	77	100	4	1	2	6	190	39
Homo/bisexual contact	32	97	3	8	3	1	144	30
Heterosexual contact	17	90	12	1	3	4	127	26
Other	9	15	0	2	0	0	26	5

Source: Department of Health

Data from the 1991 and 2000 National Censuses on self-reported disabling ill-health conditions provide further information on factors affecting the physical and psycho-social well being of the island's residents. While in 1991 the three disabling conditions that most affected individuals in Bermuda were heart conditions, high blood pressure and arthritis, in 2000 these have changed to arthritis, back problems and respiratory problems (including asthma).

Looking at self-reported ill-health conditions that have not necessarily had a disabling impact, data reported in the 2000 National Census, show that the conditions that most affected individuals in Bermuda were, in decreasing order, high blood pressure, asthma, diabetes, arthritis, heart conditions and back/spine pain. The same six conditions apply when comparing men and women, and black and white populations, although the order is slightly different.

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However, analysing self-reported ill-health conditions by households' relative economic position, those in the upper income bracket (i.e. earning 150% or more of median income) are more likely to report ill-health conditions than households in the lower income bracket (i.e. earning 50% or less of median income). Indeed, while higher income households accounted for 27% of all households in 2000, they reported 47% of all conditions; lower income households accounted for 19% of all households and reported 14% of all conditions.

Finally and with respect to people's opinions on health issues in Bermuda, in 1999, the Adult Wellness Report indicated that 58% of respondents cited AIDS/sexual diseases as their greatest concern, followed by cancer (49%), drug/alcohol abuse (43%), diabetes (25%), heart disease (22%), and obesity/food-related diseases (20%).

Looking at substance misuse, according to 2001 research of the National Drug Commission of Bermuda (NDC)[11], the adult population reported using (in the previous month) alcohol (54%); tobacco (18%) and marijuana (7%). Reported use of cocaine, crack, and hard drugs including heroin, was less than 1%. With the exception of the use of hard drugs, the rate of use of drugs by Bermuda's adult population has not declined from 1999 data. The research estimated that approximately 25,200 Bermudians were regular alcohol users; 8,400 were regular smokers; 3,400 were marijuana users; 500-800 were cocaine users, 200-500 were crack users, and 300-700 were heroin users. In addition, DoH 2001 data show that of those arriving to Westgate prison (the custodial institution for men) 55% had a positive drug test (n=168). This figure was 65% in 2000 (n=198), 52% in 1999 (n=128), and 51% in 1998 (n=122).

With respect to young people, and according to 2003 NDC research measuring the behaviour of middle and senior school students, marijuana use was from as low as 1% (middle schools) to as high as 21% (senior schools). Further, 10% reported using marijuana in the previous 30 days, 3% less than in 2002. These findings indicate a decline in marijuana use since 1997. Cigarette use also declined from 10% in 2000 to 7% in 2003. Alcohol stayed more or less stable at 27%.

[11] The NDC is the lead agency on treatment, prevention and research on substance misuse.

Social Context

According to the National Census in 2000 there were 62,059 people living on Bermuda's 54 km^2; that is, a very high population density of just under 1,150 persons per square kilometre, where there is no meaningful breakdown between rural and urban. Instead, Bermuda is best described as having one city (Hamilton) and an extended suburban area. Hamilton has a very small resident population (less than 1,000 people), and almost all inhabitants live in the suburban area.

With respect to Bermuda's racial breakdown, according to the 2000 National Census, 55% of the population was black, 34% white, 5% mixed black, 2% mixed white, 2% Asian, and 2% other racial background.

Looking at educational achievement, according to data from the 1991 and 2000 National Censuses, there has been a significant increase in the number of people obtaining qualifications. For example, the number of people obtaining a degree grew by 67% (from 5,857 to 9,765), while the number of people with no qualifications fell by 18% (from 16,983 to 13,983). Further, while in 1991 people with degrees accounted for 13% of the population of 16 and older, this figure grew to 20% in 2000. Likewise, the percentage of people with no qualifications fell from 37% in 1991 to 28% in 2000. In addition, the number of people obtaining 'school leaving certificate' dropped by under 3% (from 14,535 to 14,143), while the number of those obtaining technical diplomas grew by 28% (from 8,555 to 10,989).

Focusing on educational achievement, according to race and status (i.e. Bermudian/Non-Bermudian) in 2000, while 28% of the total population had no qualification, this figure was 34% for the black population and 20% for the white population; and 32% for Bermudians and 15% for Non-Bermudians. On the other hand, while 20% of the total population had degrees, the black/white breakdown was 12% and 32%, respectively; and the Bermudian/Non-Bermudian breakdown was 15% and 38%, respectively.

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Data from the 2000 Census regarding relative household income show that 19% of Bermuda's 25,148 households are considered 'Poor' (i.e. earning less than half of the territory's median income, BDA$71,662 per annum). A further 11% of households are 'Near Poor' (i.e. have an income of 50% to 62.5% of the median income). This breakdown (19% and 11%) was the same in the 1991 Census. At the upper end of the income scale, the number of households considered 'Middle Class' (i.e. earning between 62.5% and 150% of the median income) accounted for 42% of all households (46% in 1991). Finally, the 'Well-to-Do' (i.e. earning more than 150% of the median income) were 27% (24% in 1991).

Looking at income distribution in terms of race and status, although 19% all households are Poor, 20% of black households and 15% of white households are Poor; the Bermudian/Non-Bermudian breakdown is 19% and 17%, respectively. Looking at income distribution by age of the head of the household, 40% of households headed by 65s and older are Poor (down from 45% in 1991).

With respect to unemployment in Bermuda, according to data from the Government Employment Office, the monthly figure of those registered unemployed during 2001 spanned from a minimum of 67 people during April, to a maximum of 123 in October. In 2000, the minimum was 28 registered unemployed in December and the maximum was 49 in August. In 1999, the minimum was 36 in December and the maximum was 73 in September. Finally, Bermuda does not feature in Human Development Reports by the UNDP[12].

[12] United Nations Development Programme.

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Chapter 2: The Health System

General Organization

Bermuda's organisational model for the health system is made up of loosely linked private and public sub-sectors. The private sub-sector plays a large role in both service provision and financing. Regarding provision, there is a significant number of for-profit practices operating on the island, which carry out most of the preventative and primary care service delivery as well as some secondary care. In addition, there are private providers overseas, especially in the USA and Canada, which carry out, largely, specialised secondary care and tertiary care. With respect to health service financing, private health insurers provide coverage to the majority of residents in Bermuda. The contribution of non-profit organisations is proportionately small.

The sub-sector of Bermuda's health system accompanies the private, in terms of both provision and financing. With respect to service provision, the public sector delivers directly most population-based services, some preventative and primary care, as well as most non-personal services. It delivers indirectly, through the island's only two hospitals –King Edward VII Memorial Hospital (KEMH) and St. Brendan's Hospital– most secondary care and psychiatric care provided in Bermuda. In relation to financing, the public sector funds in full all the service provision it delivers directly; it also funds indirectly, through a system of subsidies and grants, a large share of the secondary care and psychiatric care provided in Bermuda.

The dual trait characterising the organisational model of Bermuda's health system, which places a strong emphasis on the private sub-sector's role, has been consolidating in recent decades and it appears to continue to be the predominant model for the coming years.

Public Institutions

The Ministry of Finance (MoF) and Ministry of Health and Family Services (MoH) are the two key Government institutions participating in the health sector. Other ministries and departments also take part, although to a relatively lesser extent. For example, the Ministry of Education and Development (MoE) co-leads with the MoH on the school health policy; the Ministry of

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Transport (MoT) is involved in road safety programmes; and the Department of Consumer Affairs (DoCA) provides assistance to patients in their role of clients in the health system, under the Consumer Protection Act 1999.

According to the Hospital Insurance Act 1970, the MoF is responsible for licensing health insurance providers in Bermuda and for authorizing approved schemes, which are special health insurance arrangements run in-house by large organizations. There are three approved schemes operating at present in Bermuda, one of which is the Government Employee Health Insurance Scheme (GEHI). The MoF is also responsible for the Standard Hospital Benefit (SHB), that is, the package containing all health service benefits that licensed insurers and approved schemes have to offer to the individuals they insure. According to the Hospital Insurance Act 1970, a cross-ministerial commission, called the Hospital Insurance Commission (HIC), periodically reviews content and price of new services to be included in the SHB, and advises the MoF in this respect. Changes approved have an impact on the costs of premiums paid by the insured population and the level of subsidies provided by Government. HIC also provides low-cost health insurance, the Hospital Insurance Plan (HIP).

The MoH is the lead Government agency with respect to provision and regulation of health care. It is composed of four departments: the DoH, the Department of Child and Family Services, the Department of Financial Assistance and the Department of Court Services. Each department is responsible for its own operation, under the authority of the Permanent Secretary, and the direction of the Department Head or Director. The MoH is also responsible for Bermuda's two hospitals, KEMH and St. Brendan's Hospital. KEMH and St. Brendan's are run by a quasi non-Governmental organisation, the Bermuda Hospitals Board (BHB), established by the Bermuda Hospitals Board Act 1970. Finally, the MoH has responsibility for another quasi non-Governmental organisation, the National Drug Commission (NDC)[13].

Within the MoH, the Department of Health (DoH) exercises the lead role with respect to health service provision. The DoH is organized into five sections: Community Assessment and Health Information Services, Central Government Laboratory, Dental Health, Environmental Health

[13] The NDC is currently in the process of being incorporated directly into the MoH.

and Community Health. The Community Assessment and Health Information Services Section houses the Health Promotion and the Epidemiology and Surveillance Units; it also provides support to the non-profit sector (e.g. charitable organisations such as Age Concern). The Central Government Laboratory has responsibility for the laboratory identification and confirmation of public health hazards as well as drugs analyses and forensic services. The Dental Health Section has primary responsibility for assuring dental health services for children. The Environmental Health Section is in charge of assuring food and water safety, sanitation, environmental health protection and occupational health and safety. The Community Health Section promotes and maintains the health of individuals and families in the community through a wide range of services (see details in Service Delivery Section of this report); it is also responsible for a day-care center for adults with severe cognitive challenges (i.e. Orange Valley), a training center for young adults with learning and/or physical disabilities (i.e. Opportunity Workshop), and a 24-hour facility providing nursing care, health supervision and rehabilitation services (i.e. Lefroy House).

According to 2004 data by the Government of Bermuda, the DoH employs a total of 252 employees across its Sections. The staff includes a range of public health professionals and paraprofessionals as well as manager and administrative support staff.

The DoH's 2004/05 budget amounts to BDA$20 million allocated to the five operational Sections as follows: 2.2 million for the Community Assessment and Health Information Services Section, 0.7 million for the Central Government Laboratory, 1.0 million for Dental Health, 2.5 million for Environmental Health, and 13.6 million for Community Health. The DoH charges small fees for some of its services; the 2004/05 budget estimated a revenue from this source of BDA$0.8 million; that is, under 5% of the Department's budget. In addition to financing the services provided by the DoH's own programmes, the MoH subsidises health care costs of certain populations, and grants operating funds to St. Brendan's hospital and to the NDC. The 2004/05 budget has allocated a total of BDA$87.7 million for this purpose, broken

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down as follows: 59.7 million in subsidies for health care in Bermuda and overseas[14], 28 million in grants (i.e. 25 million to St. Brendan's Hospital and 3 million to the NDC). Finally, 2004/05 MoH budget also included BDA$2.6 million for administration and BDA$2.5 million for capital expenditure. Summing up, MoH health budgeted expenditure for the period 2004/05 amounts to BDA$112.8 million.

To conclude, Bermuda is divided into three health regions to facilitate the delivery of public health services. In each region, the DoH operates a health centre that offers services, including prenatal care, family planning, immunizations, child health, and dental clinics for children.

Private Institutions

The private for-profit sector plays a large role in Bermuda health system, in particular in terms of service provision and financing. The non-profit sector plays a much smaller part. With respect to service provision, private practices in Bermuda are involved mainly in the provision of primary health care, some secondary care, dental practices, nursing services, pharmacies and other health care services such as physiotherapy, nutrition, psychology and optometry. In addition, there are private providers overseas, especially in the USA and Canada, which carry out, largely, specialised secondary care and tertiary care.

Bermuda relies heavily on imported health technology as well as foreign health care professionals. According to the 2000 National Census, 63% of pharmacists, 50% of physicians, physiotherapists and nurses, and 43% of radiologists were Non-Bermudian. On the other hand, almost 90% of dentists, dieticians and nutritionists were Bermudian.

Although proportionately small, the non-profit sector does play a part in Bermuda health system, covering areas such as: patient advocacy, care of the elderly, substance misuse treatment, medical research, support to families of persons with certain conditions, mental health, etc.

[14] Financial support to individuals for care overseas is provided indirectly via a grant to the non-profit organisation Lady Cubitt Compassionate Association (LCCA). For the 2004/05 period LCCA received BDA$1.7 million from the MoH

On the financing side there is a highly concentrated market of health insurance providers. Government staff are covered by the Government's own approved scheme, the GEHI. GEHI is governed by the Government Employees (Health Insurance) Act 1986. Private businesses and self-employed individuals contract largely from private health insurers. This latter market is dominated by three corporations. Finally, there is the low-cost health insurance plan HIP, run by the HIC and regulated by the Hospital Insurance Act 1970.

Resource pooling is fragmented; the private insurers, GEHI and other approved schemes, and HIP all manage their funds independently[15]. With the exception of the SHB fraction that is regulated by the Hospital Insurance Act 1970, each insurer sets levels of co-payment, risks to be covered and populations to be covered. There is, however, one risk sharing pool, the Mutual Reinsurance Fund (MRF), towards which licensed insurers, approved schemes and HIP contribute. MRF, which is regulated by the Hospital Insurance Act 1970, covers benefits such as haemodialysis, kidney transplants, anti-rejection drugs, long-term care in hospital, etc. Licensed insurers also reinsure part of their risks, usually by way of caps to the costs of benefits. SHB acts as the mandatory minimum level of risk coverage. HIC advises the MoF on the content and price of services and other inputs to be included in the MRF.

Purchasing of health services varies according to the level of care delivered and the sub-sector to which provider belongs. Providers who belong directly to the public sub-sector receive salaries from the Government and provide nearly all care free at the point of delivery. Services by providers indirectly belonging to the public sub-sector, that is, BHB services, are purchased by pools (or by individuals) on a set-fee schedule basis. Purchasing of services falling under SHB package follows rules set by the MoF. In turn, BHB pays fixed salaries to their staff. BHB however, has pre-negotiated fee for services arrangements with some providers delivering specialised services.

Within the private sub-sector, local practices charge fees for their services; fees are agreed privately between provider and insurer or with the care seeker directly. Psycho-social health care provided through Employee Assistance Programmes (EAP) is purchased by directly by

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[15] There are some minor exceptions, for example, GEHI contracts dental insurance from a private health insurer.

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employers under capitation-type agreements, that is, a set fee-per-employee covered. Finally, care purchased overseas is done largely through dedicated long-term arrangements with preferred care providers or intermediate organisations.

System Resources

Human Resources

As the data presented in the table below show, in general terms, Bermuda's health system enjoys a level of human resources which is not insufficient. If should be noted however, that an aspect of potential concern is, as mentioned earlier, that the island is heavily dependent on care providers from overseas, which entails potential problems such as high turnover or lengthy recruitment periods. Approximately 50% of physicians are GPs and 50% are specialists. Unemployment among health workers is negligible.

HUMAN RESOURCES IN THE HEALTH SECTOR[16]

Type of Resource	Year						
	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Ratio of physicians per 10,000 pop.	15	19	18	19	19	19	N/D
Ratio of nurses per 10,000 pop.	80	83	80	83	75	72	N/D
Ratio of dentists per 10,000 pop. (*)	4	4	4	4	10	10	N/D
Ratio of mid-level laboratory technicians per 10,000 pop.	6	7	7	6	N/D	N/D	N/D
Ratio of pharmacists per 10,000 pop.	5	6	6	6	6	6	N/D
Ratio of radiologists per 10,000 pop.	5	10	7	7	N/D	N/D	N/D
No. of Public Health graduates	N/D	N/D	N/D	N/D	N/D	N/D	N/D

(*) Data for years 2002 and 2003 include dentists and dental hygienists
Source: Department of Statistics

[16] It should be noted that the data presented in table 'Human Resources in the Health Sector' is gathered by the Department via an Annual Employment Survey. This surveys often yields low response rates, which may result in an underestimation of the number of health professionals. An indication of this issue can be gauged, for example, by comparing data on the number of dentists by the Bermuda Dental Association (see BDA web-site) and the Department of Statistics. While according to the former, there were 5.6 dentists every 10,000 population in Bermuda, for the latter this figure was 4.

HUMAN RESOURCES IN PUBLIC INSTITUTIONS, YEAR: 2004

Institution	Type of Resource					
	Physicians	**Nurses**	**Nursing auxiliaries**	**Other health workers**	**Adminis-trative personnel**	**General services**
KEMH	46	392	115	128	83	188
St. Brendan's	9	95	94	22	20	56
TOTAL	**55**	**487**	**209**	**150**	**103**	**244**

Source: Bermuda Hospitals Board

With respect to physicians at KEMH, out of the 46 practitioners employed full-time, 24 are GPs and 22 are specialists. KEMH also utilises the services of other specialist physicians in Bermuda and from overseas, contracting them on a stipend basis. At St. Brendan's, there are 9 physicians, 2 of whom are psychiatrists and 7 are GPs. A GP joining BHB is expected to have a yearly gross retribution of approximately BDA$90,000. There are performance assessment arrangements for health personnel at both DoH and at BHB, usually via performance management measurement systems and key performance indicators[17].

Drugs and Other Health Products

Bermuda's drug market is largely unregulated and relies heavily on trust among the various stakeholders in it. A variety of agents, including local pharmacies, local practices, BHB, DoH and wholesale agents, import the drugs consumed in Bermuda. Drug prices are not regulated. The Pharmacy and Poisons Act 1979 sets restrictions with respect to the number of countries from which importers can purchase drugs. Consuetudinary practice is that importers can bring any drug into Bermuda provided that (1) the exporting country is recognised in the Pharmacy and Poisons Act, and (2) the regulatory agency in the exporting country has accredited the drug in question. Neither importers nor dispensers have public reporting requirements with respect to the kind, number or price of the drugs imported to and sold in Bermuda.

According to estimates based on data by the Government of Bermuda (re: vaccines, HIV/AIDS treatment, and specific subsidies), the Department of Statistics (re: out of pocket expenses on physician-prescribed and self-prescribed drugs) and private insurers (re: benefits paid for drugs),

[17] DoH uses indicators such as number of first visit to new mothers by nurses within the first fortnight of delivery; BHB's indicators are, for example, length of patient stay by physician or recovery time by physician.

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Bermuda's total spending on drugs amounted to over BDA$37 million in 2004, representing nearly BDA$600 per person for the year[18]. Further, as the data presented in the table below shows, drug expenditure in Bermuda is growing rapidly.

SELECTED DRUGS DATA FOR BERMUDA 2000 - 2004

Indicator	Year				
	2000	**2001**	**2002**	**2003**	**2004**
Total no of registered pharmaceutical products	N/D	N/D	N/D	N/D	N/D
Percentage of brand-name drugs Percentage of generic drugs	N/D N/D	N/D N/D	N/D N/D	N/D N/D	N/D N/D
Total spending on drugs (in BDA$ thousand)	19,313	26,295	29,945	31,835	37,279
Per capita spending on drugs (in BDA$)	307	416	475	500	588
Percentage of Government spending on health that is allocated to drugs	1.1	1.2	1.1	1.3	1.3
Percentage of the Government for drugs expenditure that executed by the Ministry of Health	100	100	100	100	100

Sources: Government of Bermuda, private insurers, Department of Statistics and MoH.

There is no provision for insurance coverage for drugs under the SHB, other than for the drugs administered as part of hospital procedures. However, most 'Major Medical'[19] health insurance packages cover the cost of drugs, mostly partially and with upper limits. There are Government subsidies in place, in particular for seniors enrolled in HIP and the financially deprived. Drug treatment for certain pathologies, such as HIV/AIDS, is also subsidised.

Public institutions and KEMH follow treatment protocols and standardised therapies on some conditions, for example, asthma, blood pressure, pneumonia, caesarean sections, hip replacements and HIV, especially with respect to prevention of mother to child transmission of HIV.

KEMH has six in-patient and two outpatient pharmacists; St. Brendan's has two pharmacists (one on methadone treatment duty exclusively). In addition there are two pharmacists at management and co-ordination level. Pharmacists are physically present in the hospitals during working hours (approx. 8:00am to 6:00pm, Monday to Friday); there is one pharmacist available on-call outside working hours. The Pharmacy and Poisons Act 1979 requires private pharmacies to have a pharmacist present.

[18] Figures do not include drugs administered while in hospital, either at BHB or overseas.
[19] See details on Major Medical coverage in Financing and Expenditure section, below.

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There is one blood bank in Bermuda; it is located at KEMH and is run and funded jointly with the Bermuda's Red Cross. The bank runs clinics twice a week. During 2004 there were approximately 3,000 blood donations, according to data from BHB. No donations are remunerated; the bank has a policy actively selecting donors according to needs. It also keeps an Emergency Donors List, largely consisting of police officers, fire fighters and other public servants. The bank operation follows standardised control protocols, which consist, briefly, of: selection of donor, infectious diseases testing (i.e. HIV, Hepatitis B and C, and syphilis), a quarantine period until testing is completed, labelling, and safe storage in alarmed refrigerated units. Control protocols are applied to 100% of donations.

Health Technology

The table below provides details of some of the health technology available in Bermuda, in particular in relation to basic diagnostic imaging and clinical laboratories. Data is also provided on beds available at KEMH and St. Brendan's psychiatric hospital.

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AVAILABILITY OF EQUIPMENT IN THE HEALTH SECTOR, YEAR: 2005

Institution	Type of Resource			
	Beds available	**Basic diagnostic imaging equipment**	**Clinical laboratories**	**Blood banks**
Public	_KEMH_ – 211 in-patient acute care – 104 continuing care – 12 hospice _St. Brendan's_ – 24 in-patient acute care – 98 long-term & rehab. – 8 detox.	_KEMH_ – 1 CAT scanner – 1 Injector – MRI scanner – Injector – 1 Nuclear medicine scanner – 5 Ultrasound scanner – 4 X-rays rooms – 2 Mammography machines – 1 Bone density scanner – 1 Heel densitometer – 1 Laser printer for films of all modalities – 2 Dryview film developers – 2 Film processors	_KEMH_ Chemistry: – 5 Floor analysers – 2 Blood gas analysers – Radiometer Haematology: – 8 Bench top analysers Anatomic Pathology: – 2 Cryostats – 2 Tissue processors – 1 Immunostainer – 1 Coverslipper – 1 Thin Prep – 2 Microtome Transfusion: – 1 Diamed cross match system – 8 Centrifuges Microbiology: – 1 Bactec – 1 GenProb	_KEMH_ – 1 blood bank
Private (non-profit and for-profit)	Nil	– 1 MRI scanner – 1 CAT scanner – 3 Ultrasound scanners – 2 X-rays rooms – 2 Mammography machines – 1 Bone density scanner – 1 radioisotope equipment	– 8 Clinical laboratories	Nil

Source: Bermuda Hospitals Board (for Public Institutions data) and DoH estimates (for all Private institutions data)

In addition to the clinical laboratory and diagnostic imaging equipment described in the table above, KEMH counts with a fully equipped delivery unit where all deliveries in Bermuda take place (approximately 800 per year). There are neonatology, maternity and nursery facilities that include incubators, baby warmers, photo-therapy units and ventilators. KEMH also has an intensive care unit (opened in 2004); it has nine beds, one of which is paediatric. At KEMH there are 15 dialysis machines.

According to BHB data, in 2005 there was no defective or out-of-order equipment. With respect to the operating budget dedicated to repairs and maintenance expenses, data from KEMH's accounts indicate that in 2004 BDA$4.0 million or 3.5% of total expenses were spent under this item, while in 2003 the figure was BDA $4.4 million or 3.2% of total expenses. Looking into repairs and maintenance of specific areas, at KEMH clinical laboratories take up 3% of their budget and repairs while maintenance of imaging equipment take up 30%. The medical technicians operating laboratory equipment carry out, largely, the equipment maintenance duties. On the other hand, suppliers of the equipment carry out most maintenance of diagnostic imaging technology, via regular preventative checks or fly-in services (for repairs in urgent situations). BHB also has an in-house maintenance and repair team which acts as front line of operation.

Regarding the location of high technology, KEMH concentrates nearly all equipment in Bermuda. The hospital is half way between the east and west ends of the island, at approximately 18 kilometres of each end. Emergency calls taking place at each end are first handled by the respective fire brigades, which act as first response until ambulances at KEMH reach them. Emergencies around KEMH area are handled directly by ambulances at the hospital. There is no helicopter service. Cases that need to be treated as urgencies overseas are flown out from Bermuda's airport located at the east end. Air ambulances are flown in from the USA.

Functions of the Health System

Steering role

In Bermuda, there is no central body responsible for steering the health system. The MoH and MoF however, share management and regulatory responsibilities; broadly speaking, MoF looks after the financing function while MoH takes care of the provision function.

With respect to stewardship of the health systems financing function, the MoF, through the HIC, controls the SHB package and the MRF. HIC reviews the basic hospital benefit package on a yearly basis. MoF, in addition, regulates the kind of benefit to be included under the package as well as the prices of these benefits. MoH also plays a part in this process.

In accordance with the Bermuda Hospitals Board Act 1970, The MoH regulates the pricing of hospital fees as well as medical and dental charges for procedures in or partially in the hospitals[20]. For this purpose, it is assisted by the Joint Committee on Medical Charges Fee Schedule. This Committee includes representatives from the Bermuda Medical Association, Bermuda Medical Society, HIP, Health Insurance Association of Bermuda, licensed insurers and one practicing physician appointed by the Minister.

According to the Hospital Insurance Act 1970, health insurers willing to provide coverage under the SHB package have to be licensed by the MoF. Organisations willing to provide health insurance schemes to their employees have to seek approval from the MoF. Licensing of insurers and approval of schemes is carried out by the HIC. HIC also keeps a Registry of Health Insurers. Insurance coverage outside SHB can be provided by non-licensed insurers. MoF regulates private insurers and approved schemes but only on benefits falling under the SHB package. Benefits falling outside the SHB package are not regulated (e.g. dental care or drugs).

With respect to stewardship of the health service provision function, MoH supervises, evaluates and controls health service provision delivered by the DoH. It also controls, albeit indirectly, service provision by BHB. The Public Health Act 1949 (and successive amendments) provides a regulatory framework for public health, covering areas such as communicable diseases, vaccination, sanitation and water supply, overcrowding, control of hotels and other public premises, and production, preparation and sale of food. It also establishes roles, duties and responsibilities of individuals, organisation and public officers with respect to public health issues.

[20] In this respect, the Bermuda Hospital Boards Act 1970 has been supplemented by two key amendments: the Bermuda Hospitals Board (Hospital Fees) Regulations 1980, and the Bermuda Hospitals Board (Medical And Dental Charges) Order 1997. The 'hospital fees' and 'medical and dental charges' regulations have been amended several times in recent years (i.e. the Bermuda Hospitals Board (Hospital Fees) Amendment Regulations 1996, 1997, 1998, 1999, 2000, 2002 and 2004, and the Bermuda Hospitals Board (Medical And Dental Charges) Order 1997, 1998, 1999 and 2003).

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Private providers are largely unregulated. There are councils and boards, which regulate the registration and accreditation of health professionals on the island as well as the services provided. Existing councils and boards are: Bermuda Medical Council, Bermuda Dental Board, Bermuda Nursing Council, Pharmacy Council, Bermuda Psychologists Registration Council; Board of Physiotherapists, Council on Professions Supplementary to Medicine, Chiropractic Registration Council, Board of Occupation Therapists, Board of Radiographers, Board of Medical Laboratory Technologists, and the Optometrists and Opticians Council.

In addition to the control exercised by the MoH, and in accordance to the Consumer Protection Act 1999, the DoCA provides citizens with advice and assistance. DoCA's support varies case by case; it may consist, for example, of technical help to the client in understanding the legal framework or the functioning of the many institutions involved in the health system, or direct assistance in pursuing their case before the relevant health system's stakeholder (e.g. BHB, a private practitioner or a health insurer). Data for the period 2001-2004 indicate that the DoCA has handled an average of 25 health system-related cases per year, under 5% of DoCA's total caseload. Further, the most frequent reasons for DoCA intervention are billing/payment issues (37 cases), quality of care issues (23 cases), and health insurance issues (11 cases).

With respect to inter-sectoral action, and looking in particular at service provision, there are two main programmes cutting across the public and private sub-sectors: the Healthy Schools programme and the NDC prevention and treatment programmes. With respect to the former, the programme is co-led by DoH and MoE, and aims to act as an additional layer of co-ordination, facilitation and support for all services delivered to the school population (see Service Delivery section below for details of school health services). The NDC lead a network of public and private (for-profit and non-profit) sub-sector institutions involved in substance misuse prevention and treatment. Main stakeholders are DoH, BHB, a network of non-profit organisations largely involved in prevention and treatment, and private organisations with a primary interest in early detection of substance use among their staff.

In relation to information systems, the MoH collects information on mortality and morbidity (i.e. communicable diseases and other diseases of interest) through its Epidemiology and Surveillance

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Unit. Bermuda's Department of Statistics and Registry General collect and report data on vital statistics. Providers in the public sub-sector, report to the MoH. BHB is also accountable to the MoH' BHB produces an Annual Report that is made available to the public.

Health financing information is limited. The MoF collects data on subsidies paid by Government and on benefits paid by all licensed insurers under the SHB, but there is no information collected on other benefits paid by insurers, or on out-of-pocket payments by individuals. The latter two items account for the majority of payments to health service providers.

There is no central body responsible for <u>human resources</u> policy formulation, planning and coordination in Bermuda. The MoH plans and coordinates human resources with respect to services delivered by it directly, and BHB coordinates human resources issues in relation to KEMH and St. Brendan's. Actions taken by the MoH to intervene on the supply of local health care providers have included for example, the promotion of low level training (e.g. geriatric aides). In addition, BHB's initiatives, also oriented to increasing the supply of local health care providers, have targeted in-house staff as well as the school population. Staff at BHB benefit for example, from training allowances and secondment opportunities, largely in USA institutions. Middle and senior school students in turn, can take part in volunteer programmes or paid summer job programmes, lasting 8 weeks. In 2004, approximately 200 students took part in BHB volunteer programmes. BHB also has a fund for life sciences scholarship awards.

Planning and coordination of human resources in the private sub-sector is, on the other hand, very limited. The supply of health care providers is largely conditioned by market-related imperatives. While some areas of health care provision appear for the most part to accommodate supply and demand, other areas seem to experience imbalances between care supply and care demand.

There is little <u>training</u> done in Bermuda outside in-house training provided by Bermuda's only two hospitals. The Bermuda College, a quasi-non Governmental organisation accountable to the MoE, runs a nursing programme in conjunction with Hampton University in the USA. It also trains staff for the DoH Home Resource Aids programme (see Population-based Services

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section, below). St. Brendan's hospital has an accreditation as a training centre from accrediting agent City and Guilds (UK).

Procedures for accreditation of health facilities differ in the public and private sub-sectors. The MoH is responsible for the accreditation of facilities under its own programmes, and BHB is responsible for facilities in KEMH and St. Brendan's. BHB is also accredited by the Canadian Council for Health Services Administration, which reviews it every three years. The last BHB review was carried out in 2002.

Private sub-sector facilities are not subjected to direct accreditation procedures from public authorities. Instead, some indirect mechanisms are in place. For example, diagnostic imaging facilities in private practices require accreditation with bodies overseas (e.g. in the USA), which are recognised by public authorities in Bermuda. In relation to laboratories in the private sector, one out of the eight in activity at present has obtained accreditation from an overseas body.

There are no public agencies responsible for evaluating health technology. BHB has its own in-house technology evaluation procedures.

With respect to clinical practice, there are no overarching policies for the preparation, introduction, and use of guidelines, although BHB has its own internal policies.

Financing and Expenditure

Financing

Availability of information on the financing of health costs varies by sub-sector. With respect to the public sub-sector, the Government produces a yearly report on all revenue and expenditure, which has detailed information on public budget funds allocated to health costs. The report covers periods from 1 April to 30 March of the following year. BHB produces annual reports which include information on financing. Publicly-available information on the financing of health costs in the private sub-sector is limited. Licensed health insurers and approved schemes provide yearly information to HIC on benefits paid under the SHB package only. No information

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on insurance premiums is publicly available. Information on out of pocket expenses by individuals is produced by the Department of Statistics based on Household Expenditure Surveys and Estimates of Personal Expenditure. With regard to the former, to date four such surveys have been carried out: in 1974/5, 1982, 1993 and 2004.

The tables below report data on Bermuda's health system financing for the period 2000 to 2004. However, the findings presented should be treated with prudence, due to the limited nature of systematically collected information in this regard[21].

In 2004, Bermuda's health system consumed over BDA$376 million. The largest two sources of funding have been private insurance, with over BDA$191 million, followed by Government, with BDA$110 million. Household financing, that is, the monies paid out of pocket when purchasing health care (e.g. co-payment of visit to the doctor if covered by health insurance, full payment for a dental visit if not covered by insurance, payments for care of the elderly, etc.), was the third main source of financing of Bermuda's health system, with over BDA$57 million.

[21] Health sector financing data is not systematically collected in Bermuda. For the calculation of the figures that appear in the table on 'Health Sector Financing', a variety of sources was utilised, a mix of methods applied, and assumptions were made. Briefly, BHB and MoH official reports were used to calculate the public sub-sector element. On the private sub-sector, the Department of Statistics' 'Estimates of Personal Expenditure' and preliminary findings of the '2004 Household Expenditure Survey', were the main sources of information used to generate data on Private Insurance and Household Financing. Technically, for 2004, weekly household expenditure data on health (i.e. insurance and out of pocket expenses) by the average household in the survey's sample (n=762 households) was converted into yearly national figures (N=26,427 households, estimated for 2004). Employers' share of private insurance was estimated at 45% of total private insurance. Data for 2000-2003 was estimated drawing on relevant indices from the price of HIP premium, for estimating Private Insurance, and from 'Estimates of Personal Expenditure', for estimating Household Financing. Finally, NGO's data for 2003 was kindly provided by the Urban Institute (New York, USA) from a survey carried out for the Centre on Philanthropy on Bermuda's Charities 2003 – 04); NGO's expenditure for 200-2002 and 2004 was estimated using the same method as household financing.

HEALTH SECTOR FINANCING, 2000-2004 (IN THOUSANDS OF BDA DOLLARS)

Indicator	Year				
	2000	**2001**	**2002**	**2003**	**2004**
1. PUBLIC SUB-SECTOR					
Funds from the Consolidated Fund	93,451	86,818	93,706	100,309	110,231
External financing	---	---	---	---	---
Social security	---	---	---	---	---
Sale of goods and services; capital and returns of investments	4,208	4,730	3,732	3,867	4,705
Total	97,659	91,548	97,439	104,177	114,936
2. PRIVATE SUB-SECTOR					
Private insurance	139,396	150,469	153,053	162,375	191,392
Non-profit NGOs (net of Govt. grants)	11,571	12,149	12,502	12,702	12,956
Household financing	49,446	51,958	52,793	53,735	57,566
Total	200,413	214,577	218,348	228,812	261,914
Total public and private sub-sectors	**298,073**	**306,125**	**315,786**	**332,989**	**376,850**

Sources: Department of Statistics, Ministry of Health, Ministry of Finance, Bermuda Hospitals Board and the Urban Institute (data on NGO's)

The BDA$376 million plus spent on health in 2004 represent 9.05% of GDP. Over half the monies are channelled into the health system by private health insurance arrangements. The private insurance share of financing appears to have grown in recent years (i.e. 47% in 2000 and 51% in 2004). The share of out of pocket financing has been stable in the period under observation, oscillating between 15% and 17% . The non-profit sector contributed 4% of total share in 2004, as much as it contributed in the previous four years. The public sub-sector contribution seems to be showing a slight downward trend, with 33% share in 2000 and 30% in 2004. Most of the monies (29%) are drawn from general taxation (the Consolidated Fund). There is no financing from international cooperation agencies.

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HEALTH SECTOR FINANCING, 2000-2004 (IN % AND SHARE OF GDP)

Indicator	**Year**				
	2000	**2001**	**2002**	**2003**	**2004**
1. PUBLIC SUB-SECTOR					
Funds from the Consolidated Fund	31	28	30	30	29
External financing	---	---	---	---	---
Social security	---	---	---	---	---
Sale of goods and services; capital and returns of investments	2	2	1	1	1
Total	33	30	31	31	30
2. PRIVATE SUB-SECTOR					
Private insurance	47	49	48	49	51
Non-profit NGOs	4	4	4	4	4
Household financing	16	17	17	16	15
Total	67	70	69	69	70
Total public and private sub-sectors	**100**	**100**	**100**	**100**	**100**
GDP (Current market prices BDA$000)	3,377,929	3,515,951	3,815,873	3,966,334	4,164,651
Health Share of GDP	**8.82**	**8.71**	**8.28**	**8.40**	**9.05**

Sources: Department of Statistics, MoH, BHB and the Urban Institute

Looking at per-capita expenditure in health, the data below show that the average resident in Bermuda spent nearly BDA$6,000 in the health system in 2004. The Government's share amounted in 2004 to just over BDA$1,700 per capita. This represents approximately 15% of all Government expenditure. Lastly, there is no share of debt dedicated to health within the total external debt.

LEVELS OF HEALTH EXPENDITURE IN BERMUDA

Indicator	**Year**				
	2000	**2001**	**2002**	**2003**	**2004**
Per capita Government expenditure on health (in BDA$)	1,483	1,373	1,485	1,575	1,739
Government expenditure on health /total gov. expenditure (%)	17	15	15	15	15
Total per capita health expenditure (in BDA$)	4,731	4,840	5,005	5,229	5,944
Total expenditure on health as a % of GDP	8.82	8.71	8.28	8.40	9.05
External health debt /Total external debt	---	---	---	---	---

Sources: Department of Statistics and Government of Bermuda

In relation to subsidies, private health insurance receives public financing mainly through tax exemptions and through subsidies for certain populations already covered by health insurance. With respect to tax breaks, employers' contributions towards health insurance premiums are exempted of Payroll Tax, Bermuda's tax on salaries[22].

[22] This exemption applies only to insurance schemes approved by the MoF.

Private health insurance also benefits from substantial subsidies provided by the public sector towards the health care costs of certain populations[23]. Public subsidies include children, seniors, those in need of continuing care in hospital, and those financially deprived. According to the Hospital Insurance Act 1970, all children under 16 (and up to 20 if in education in schools in Bermuda approved by the MoE) are fully subsidised by Government up to the portion of the SHB package. In addition all individuals aged 65 or over, and who are Bermudian or have been resident in Bermuda for at least 10 years, are entitled to 80% subsidy on costs under the SHB package. This goes up to 90% if the person is aged 75 or over. The balance, of 20% or 10% respectively, is paid by the insurer if the individual is insured, or by the individuals themselves if they are not insured. Uninsured individuals unable to pay may be entitled to subsidies for the financially deprived (these are described in the Health Insurance section, below).

There are special arrangements for individuals aged 65 and over who have not been residents in Bermuda for at least 10 years; these consist, briefly, of benefits similar to the ones for residents but acquirable against higher health insurance premiums (approximately four times higher than premiums for residents).

Expenditure

As with health system financing information, the availability of health expenditure information varies by sub-sector. Regarding the public sub-sector, the MoH produces yearly information on expenditure by Government health service providers, and BHB reports on expenditure by KEMH and St. Brendan's hospital. There is no publicly available information on expenditure by private providers, by pharmacies or on the costs generated by the administration and running of the health insurance system. However, licensed health insurers and approved schemes do provide HIC with information on the benefits paid under the SHB package.

[23] In general terms, these subsidies are quasi-universal, that is, they apply whether the individual in question is insured or not.

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The tables below provide a breakdown of Bermuda's health system expenditure for the period 2000 – 2004, both in absolute values and in percentages[24]. As with the tables on Health Sector Financing, the information on expenditure should be treated with prudence.

HEALTH EXPENDITURE IN BERMUDA 2000 – 2004 (IN THOUSANDS OF BDA DOLLARS)

Indicator	Year				
	2000	**2001**	**2002**	**2003**	**2004**
PUBLIC SUB-SECTOR					
Ministry of Health	20,072	18,391	21,182	23,526	26,927
- Promotion/prevention and curative care	16,879	15,936	18,676	20,372	21,744
- Administration	2,142	1,439	1,689	2,236	2,490
- Capital expenditure	1,051	1,016	817	918	2,693
Bermuda Hospitals Board (BHB)	115,395	114,493	118,145	128,011	141,267
- Health Promotion and Preventive Care	184	246	248	275	318
- Curative Care	62,040	65,722	70,120	77,933	81,662
- Human Resources Development	211	227	375	407	422
- Production/purchase of Supplies	17,427	18,748	19,605	22,123	27,057
- Administration	17,765	21,078	20,544	21,686	18,067
- Physical Plant	12,168	12,294	12,978	14,486	14,327
- Other expenditure	5,600	(3,822)	(5,725)	(8,899)	(584)
Total	135,467	132,884	139,328	151,537	168,194
PRIVATE SUB-SECTOR					
Prevention & care by local providers	77,348	86,623	108,052	109,046	106,922
Care overseas	25,820	24,280	31,356	35,479	40,612
Pharmaceutical and other medical appliances	18,700	25,658	29,266	30,925	36,389
Administration of health insurance system	40,738	36,679	7,785	6,002	24,733
Total	162,605	173,240	176,459	181,452	208,656
Total public and private sub-sectors	**298,073**	**306,125**	**315,786**	**332,989**	**376,850**

Sources: Government of Bermuda, private insurers, Department of Statistics, MoH, BHB and the Urban Institute.

BHB appear to take up the largest share of health system expenditure in Bermuda, with over BDA$140 million (38% of all expenditure) in 2004. Further this 38% share of expenditure has remained constant over the past five years. Local providers, including care for the elderly, are the second largest participants in the share of health expenditure, consuming nearly BDA$107 million (28% of all expenditure) in 2004. Overseas care expenditure stands at BDA$40 million

[24] Main steps for the calculation of the figures presented in the tables on Health Expenditure can be very briefly summarised as follows. Data on expenditure by the MoH was obtained from the Government's 'Approved Estimates of Revenue and Expenditure'. Data on BHB's expenditure was kindly elaborated and provided by BHB, upon request by the author. Data on care costs (local and overseas) and on pharmaceutical expenditure corresponding to the portion covered by insurance arrangements was kindly elaborated and provided by health insurers. Data on the out of pocket portion of care costs for 2004 was obtained from the 2004 Household Expenditure Survey (preliminary findings), which was kindly analysed by the Department of Statistics, upon request by the author. Data for the 2000 – 2003 period for out of pocket expenses was calculated using the same mechanisms utilised for generating health financing data for the same period (for details, see Health Sector Financing tables and explanatory notes).

(11% of expenditure), constituting the third item in magnitude of expenditure. Spending on drugs follows closely, with BDA$36 million (10% of total expenditure). It is to be noted that this item has experienced the steepest increase in the past five years, from 6% in 2000 to 10% in 2004. Finally, the MoH accounts for 7% of all expenses (BDA$26.9 million), most of which is spent in preventative and primary care provision by the various Government clinics and programmes (see Public Institutions section, above, and Service Delivery section, below, for details). With respect to the share of expenditure by sub-sector of the health system, data show that for the past five years there has been nearly a 45% to 55% share between the public and private sub-sectors respectively.

HEALTH EXPENDITURE IN BERMUDA 2000 – 2004 (IN %)

Indicator	Year				
	2000	**2001**	**2002**	**2003**	**2004**
PUBLIC SUB-SECTOR					
Ministry of Health	7	6	7	7	7
Bermuda Hospitals Board (BHB)	38	37	37	38	38
Total	45	43	44	45	45
PRIVATE SUB-SECTOR					
Prevention & care by local providers	26	28	34	33	28
Care overseas	9	8	10	11	11
Pharmaceutical and other medical appliances	6	8	9	9	10
Administration of health insurance system	14	12	2	2	6
Total	55	57	56	55	55
Total public and private sub-sectors	**100**	**100**	**100**	**100**	**100**

Sources: Government of Bermuda, private insurers, Department of Statistics, MoH, BHB and the Urban Institute.

Health Insurance

Risk-rated health insurance is the largest source of financing of Bermuda's health system, contributing to 51% of all financing. Over 95% of residents are covered by some kind of health insurance, according to 2000 National Census data. According to the Hospital Insurance Act 1970, health insurance is compulsory for all individuals in employment and their spouses, if not in employment. It is the responsibility of the employer to arrange health insurance for the employee. Further, health insurance for individuals in employment in Bermuda should cover no less that the SHB. Additional arrangements can be made between insurers and employers, and between employers and employees. Health insurance arrangements for individuals in employment that cover in excess of the SHB are a common feature in Bermuda. On average, employers and employees contribute equally to insurance premiums costs.

In general terms, health insurance is provided by three kinds of organisations: private insurers, approved schemes (e.g. GEHI), and HIC. Providers offer a wide variety of health insurance arrangements, which can be broadly classified as 'Major Medical' or 'Basic'. While Basic coverage is largely limited to what falls under the SHB package, Major Medical coverage can vary extensively in terms of benefits included.

The main benefits included under the SHB package coverage are as follows:

- In-patient services at KEMH, including: accommodation and meals (public ward); nursing services; laboratory, radiological and diagnostic procedures; drugs (only those prescribed and administered in KEMH); use of operating rooms; standard surgical supplies; use of radiotherapy facilities; use of physiotherapy facilities; services by persons salaried by KEMH; use of haemodialysis facilities; kidney transplant (up to the cost of $30,000) and related drugs; alcoholism treatment; use of ultrasound facilities; diabetic education and counselling; hospice coverage; speech therapy; use of orthopaedic appliances; hyperbaric and wound care treatment; bone densitometry; and cardiac care
- Out-patient services, including: pathological, X-ray and other diagnostic procedures not obtainable at KEMH; use of radiotherapy, occupational therapy and physiotherapy facilities; ambulance services; speech therapy; asthma education; use of haemodialysis facilities; use of orthopaedic appliances; hyperbaric and wound care treatment; bone densitometry; and cardiac care
- Artificial limbs
- Mental illness treatment (in- and out-patient) [in-patient limited to 40 days per year]
- Expenses incurred for approved treatment overseas [with time and price limitations]

In addition to the SHB package, other benefits usually included under the Basic coverage are: physician home and office visits [limited to approx. 4 per year and co-paid by the insured individual].

Major Medical arrangements cover all of the above and usually include other benefits. The number and scope of the additional benefits varies widely. However, main benefits included in Major Medical arrangements are:

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- Unlimited physician home and office visits [co-paid by the insured individual]
- Dental care
- Vision care [with limitations]
- General health examinations, including laboratory and diagnostic expenses, ocular examinations [co-paid by the insured individual]
- Expenses incurred for approved treatment overseas [with time and price limitations, substantially less restrictive than under the SHB package]
- Private duty nursing [co-paid by the insured individual]
- Prescription drugs [co-paid by the insured individual]

With respect to information collection and availability, HIC gathers yearly information on individuals insured. However, this information relates only to the coverage provided under the SHB. Information on percentage of the population covered by the different insurance models is provided, albeit very succinctly, in the 2000 National Census. In relation to benefits paid by insurers, HIC collects annual information from private insurers, approved schemes and from its own plan, HIP. This information however, is limited to benefits paid under the SHB package.

According to data elaborated by the Department of Statistics using information from the 2000 National Census, 86% of residents in Bermuda are insured under a Major Medical package. Just under 10% have basic coverage, while 4% of residents are uninsured. However, as the table below shows there are differences in coverage according to the various population groups. The most marked disparities in coverage are related to age. Indeed, Major Medical coverage decreases with age, from a maximum of 92% of ‘under 16s’ covered, to a minimum of 48% of ‘over 75s’ covered. Major Medical coverage for the ‘65 to 75’ age group (66%) is also substantially below that of the total population (86%).

Coverage is also related to income distribution. Indeed, among households categorised as Poor, 63% enjoy Major Medical benefit, 26% have basic coverage, while 9% are uninsured. At the other end of the income distribution, the Well-to-Do households, 93% have Major Medical coverage, 6% have basic coverage and just 1% are uninsured.

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Discrepancies in coverage are also related to race. While 82% of the black population enjoys Major Medical coverage, this figure is 92% for the white population. In addition, while 6% of blacks are uninsured, only 1% of whites are so.

Finally, the data show a relationship between status and coverage. While 85% of Bermudians have Major Medical benefit, 10% have basic coverage, and 4% are uninsured. Among Non-Bermudians, 91% have Major Medical coverage, 6% have basic coverage and just 2% are uninsured. Coverage data is provided in the table below.

HEALTH INSURANCE COVERAGE IN BERMUDA (2000)

	Population		Insurance Coverage			
			Major Medical	Basic	None	Not Stated
Indicator	**N**	**%**	**%**	**%**	**%**	**%**
Total	62,059	100	86	9	4	1
Sex						
Men	29,802	48	86	9	5	0
Women	32,257	52	86	10	3	1
Age						
0 - 15	12,594	20	92	3	4	1
16 - 24	6,017	10	87	6	6	1
25 - 64	36,726	59	89	7	4	1
65 - 74	4,177	7	66	30	4	1
75+	2,545	4	48	46	5	0
Race						
Black	34,011	55	82	11	6	1
White	21,134	34	92	6	1	0
Mixed	6,646	11	87	9	4	0
Not Stated	268	---	85	9	1	4
Status						
Bermudian	48,746	79	85	10	4	1
Non-Bermudian	13,256	21	91	6	2	1
Not stated	57	---	29	7	3	61
Household Income						
All households	25,148	100	85	12	3	0
Poor (Less than $35,831)	4,720	19	63	26	9	1
Near Poor ($35,831 - $44,789)	2,866	11	85	12	3	0
Middle Class ($44,790 - $107,493)	10,686	42	88	10	2	0
Well-to-Do ($107,494 & Over)	6,876	27	93	6	1	0

Source: Department of Statistics

Looking at <u>subsidies</u>, in addition to the largely universal ones (i.e. for children and seniors), some individuals without coverage or under-covered are entitled to the Indigent subsidy (a means-tested Government subsidy), and to the Drug subsidy. The Indigent subsidy will cover costs up to the SHB package; the Drug subsidy will cover costs of pharmaceutical products. To be entitled to these subsidies individuals have to be granted Indigent Status[25]. This is regulated, albeit loosely, in the Hospital Insurance Act 1970. Briefly, Bermudian individuals, or non-Bermudians who have been residents in Bermuda for at least 10 years and, who appear unable to meet the cost of hospital treatment or of pharmaceutical products (either because they are not insured or, in the case of drugs, they are underinsured) may obtain 'Indigent Status' from BHB for a variable period of time. Eligibility and length of time granted are appraised by BHB on a case-by-case basis. Individuals may obtain renewal of Indigent Status from BHB. According to BHB data, approximately 1,000 Indigent Statuses were granted or renewed in 2004. The MoF may revoke an Indigent Status granted by BHB, although this seldom happens in practice.

There is very limited research available on assessment of Indigent or Drug subsidies performance. In a survey on public perceptions on the quality of health care in Bermuda carried out in 2003[26], 40% of respondents (n=160) expressed being 'completely' or 'mostly satisfied' with the financial assistance ***available*** for health care in Bermuda, while 25% (n=100) reported being 'completely' or 'mostly dissatisfied' with it. In addition, when asked specifically about satisfaction regarding ***access*** to financial assistance for health care, 39% (n=156) felt 'completely' or 'mostly satisfied' while 32% (n=128) were 'completely' or 'mostly dissatisfied'. These results indicate a gap between support available and access to this support.

Finally, individuals in need of care overseas and unable to finance it may obtain financial support from Lady Cubitt Compassionate Association (LCCA), a non-profit organisation. LCCA benefits from a yearly subsidy by the Government.

Summing up, the table below provides details on all the subsidies paid by the Government of Bermuda (Indigent, Children, Drugs, Aged –including Dialysis and Geriatric, and LCCA) and

[25] There are some exceptions: people aged 65 and over who are enrolled in HIP, (since 2003 they have had direct access to subsidies on drugs up to BDA$1,000 per year), and people treated for certain conditions (e.g. HIV/AIDS).
[26] See TMC 2003.

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during the period 2000 to 2004. An indication of the number of individuals treated under some of these subsidies is also provided.

SUBSIDIES FOR HOSPITAL CARE (IN THOUSANDS OF BDA$ AND IN NUMBER OF INDIVIDUALS)

Subsidy	Year									
	2000		2001		2002		2003		2004	
	$	N	$	N	$	N	$	N	$	N
Indigent outpatient	1,275	868	1,064	782	1,269	763	1,560	824	1,756	870
Indigent inpatient	11,637		3,075		3,207		4,008		3,848	
Children outpatient	3,646	8,132	3,965	8,205	4,136	8,099	4,432	8,131	4,881	7,777
Children inpatient	2,445		2,237		2,165		2,409		2,733	
Drugs	707		750		797		1,029		1,093	
Dialysis	1,593		1,886		2,125		2,944		3,146	
Geriatric inpatient	8,881		9,057		9,151		9,676		10,731	
Aged outpatient	6,268	5,702	6,940	6,056	7,633	6,184	9,051	6,345	10,738	6,555
Aged inpatient	16,270		17,486		17,449		17,271		18,793	
LCCA (overseas)	1,104		1,604		2449		2,300		1,700	
Total Subsidies	53,826	14,702	48,062	15,043	50,382	15,046	54,681	15,300	59,419	15,202

Source: BHB and Government of Bermuda

As discussed earlier, health insurance coverage in Bermuda varies widely in the number and scope of benefits provided and in the populations reached. Although most groups enjoy the benefits of the many health insurance products available, some sub-groups are clearly disadvantaged. Specific examples will help to illustrate these disparities.

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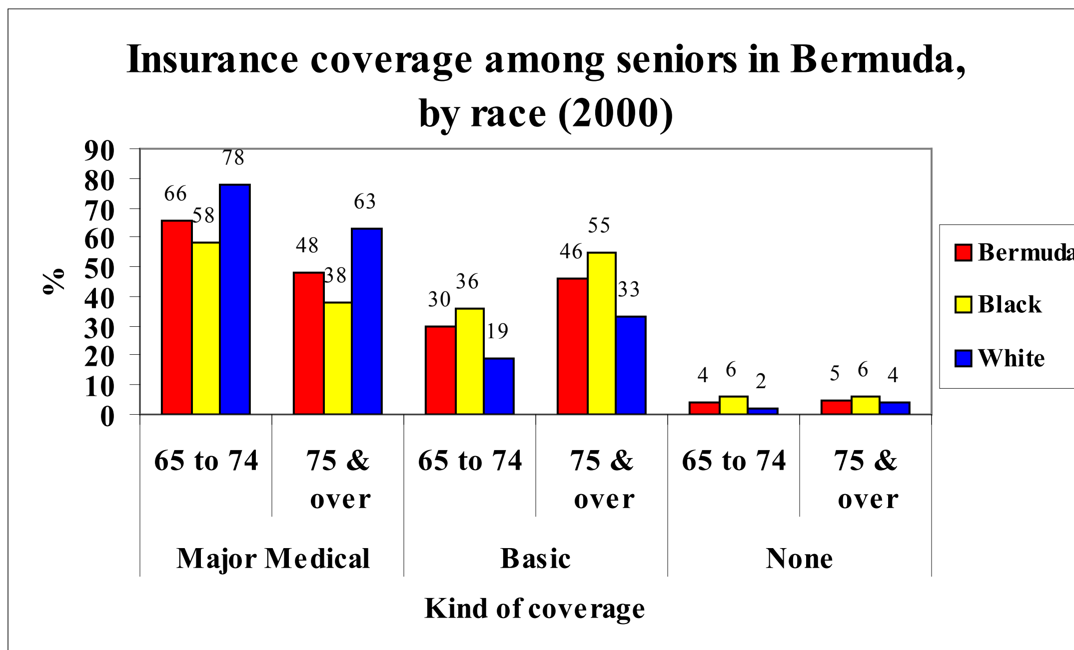
Seniors - As illustrated in the table on coverage above, Major Medical coverage decreases with age. Indeed, while Major Medical reaches 86% of all residents in Bermuda, this figures goes down to 66% of individuals aged between 65 and 74, and further down to 48% of individuals aged 75 and over. In addition, as the graph below illustrates, black seniors enjoy less level of Major Medical coverage than white seniors (i.e. 58% and 78% respectively in the '65-to-74' segment, and 38% and 63% respectively in the '75+' segment).

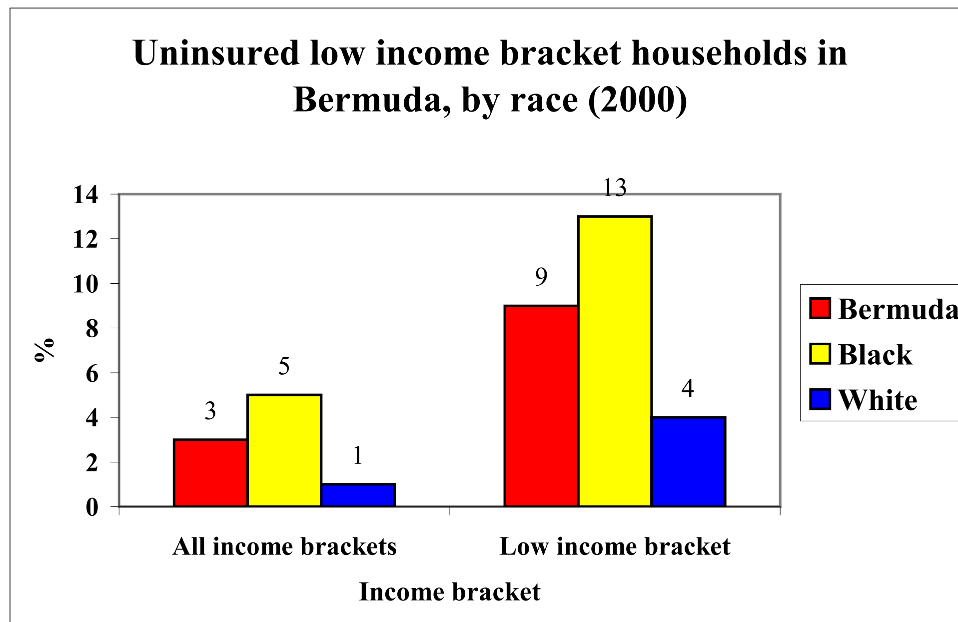
Looking at Basic coverage, 30% of individuals aged between 65 and 74, and 46% of individuals aged 75 and over have this kind of coverage only. Further, as shown in the graph below, among the black population this is the only type of coverage enjoyed by 36% of those aged 65 to 74, and by 55% of those aged 75 and over (these figures are 19% and 33% for the white population). The reader is reminded that Basic coverage arrangements exclude benefits such access to many primary care providers, dental care or vision care; in addition these arrangements place tougher limits on certain benefits such as treatment overseas or prescription drugs. These figures demonstrate that Bermuda's elderly population, in particular black seniors, find themselves under-covered in many respects.



The uninsured - A second subgroup that does not enjoy many of the advantages offered by Bermuda's health insurance system is the uninsured. For example, 19% of households are categorised Poor, and of these nearly one in ten are uninsured. Further, 13% of Poor blacks are uninsured, compared to 4% of Poor whites (see graph below). As described above, this subgroup may be entitled to the means-tested Indigent subsidy, which requires a case-by-case assessment. Indigent Status may not be granted in specific cases (e.g. if individual has savings).

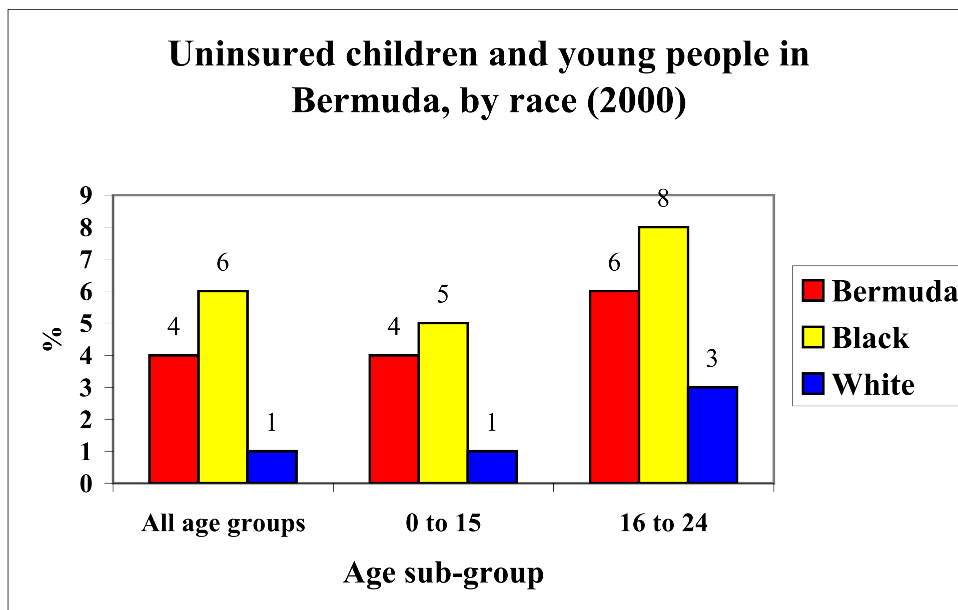
Failure to obtain Indigent Status may leave individuals uncovered, placing further financial burden on already burdened households. Further, even with Indigent Status granted, these individuals will be entitled only to the Basic coverage granted by the Indigent Subsidy.

It is noteworthy that the uninsured problem extends also to other sub-groups in the population, for example, individuals temporarily out of work. Sub-groups like the temporarily out of work, which are not fully depicted by the data presented below, appear not to be wholly captured by the logic underpinning, and procedures guiding, the Indigent Status. This may result in potentially damaging consequences with respect to their financial situation and/or their ability to access health care.



Young People - A third group which appears to be slipping through the net of Bermuda's health insurance system is young people who are not in education or who are educated in institutions not approved by the MoE.

As the table on coverage above shows, the '16 to 24' segment have less Major Medical coverage than the '0 to 15' group (87% against 92%), and more Basic coverage (6% against 3%). Further, 6% of '16 to 24' year olds are uninsured, making this the highest uninsured age group (followed by the 'over 75s at 5%). In addition, as shown in the graph below, blacks represent a greater proportion of uninsured young people than whites (8% and 3%, respectively). This situation may be related to the fact that young people not in education or in education not approved by MoE are not entitled to Government subsidy, leading to high cost of health insurance premiums, and, as the data shows, excluding many from the health insurance system.



Service Delivery

Population-based Health Services

In Bermuda, the public sub-sector carries out most of the health promotion done in the island. The DoH leads on this matter, running a broad range of stand-alone programmes that are described below. It has a dedicated Health Promotion office responsible for overall coordination, and an Epidemiology and Surveillance Unit, which centralises data on communicable and non-communicable diseases as well as investigating outbreaks of disease. BHB also conducts health promotion work, in particular health education. The private non-profit sector is also involved in health promotion, although to a lesser extent due to their proportionately smaller role within the healthcare system. This sector carries out activities and programmes that are largely targeted to specific conditions or populations (e.g. diabetes, cancer, HIV/AIDS, seniors). Health promotion activities delivered by in the private for-profit sector are limited (e.g. health education by paediatricians, wellness programmes in corporations). Programmes aimed at prevention and early detection of pathology are run both in the public and private sub-sectors.

In general terms, there is a paucity of publicly available, systematically collected information on health promotion, disease prevention and early detection of pathology programmes, especially with respect to programme monitoring and evaluation. The limited information available relates largely to the public sub-sector. Briefly, the main DoH programmes involved in health promotion, prevention or early detection of pathology are:

Maternal Health and Family Planning programme: Delivers family planning services; in 2003 it handled 3,351 visits in this respect. It provides pre-natal care. Performance data for 2003 indicates that a total of 641 prenatal care visits were carried out across the three health sections in which Bermuda is divided[27]. It provides a variety of gynaecological services including the following: screening for women, mainly oriented at early detection of pathologies like cervical or breast cancer; counselling; nutrition information; and breastfeeding advice and information. The service also acts as a referral agent. In 2003 it covered over 1,677 women.

[27] An indirect estimate of the number of prenatal visits per expectant woman may be obtained by using as proxi DoH data on the number of prenatal bookings. In 2003, prenatal bookings were 104 and prenatal visits were 641, yielding an average of approximately 6 prenatal visits per expectant mother, up to the 29th week of pregnancy (see section on Prenatal Care for further details).

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Child Health programme: Targets the 0 to 5 segment, providing services such as immunizations, assessment of growth and development. It provides parents and care givers with information and support regarding child development, behavioural and nutritional problems, injury prevention and disease management. It also acts as a referral agent[28].

Adolescent Health programme: Delivers health promotion and prevention activities with adolescents and parents of adolescents (e.g. sexually transmitted infections (STIs), psycho-social concerns, etc.). It also acts as a referral agent[29].

School Health Programme: Carries out a wide variety of health promotion and prevention activities in Government and private schools. Main activities include health promotion activities in schools (e.g. blood drills, puberty talks, healthy eating, management of minor injuries, etc.), screenings for early detection of hearing, vision and scoliosis problems, and for height and weight control. It also acts as a referral agent should screening results recommend it. Data by DoH show that in the 2002/2003 school year, it carried out 6,592 vision and 976 hearing screenings at schools, referring 305 and 28 students respectively. It also performed 681 scoliosis screenings, referring 18 students. Finally, it carried out 669 height and weight screenings, referring 14 students. [Note that according to 2000 census, school population was 9,557 students, including primary, middle and senior levels]. Under this programme school nurses carry out visits to schools for the provision a wide range of promotion and prevention services, including immunisation. They also do case management with teachers, school counsellors, parents or groups. School nurses also act as referral agents. In the 2002/03 school year school nurses carried out 1,480 visits, handling 1,938 cases directly with students, and referring 121 of these.

Blood Pressure Programme: Dedicated Blood Pressure Clinics located in four points of Bermuda provide monitoring of blood pressure levels. In 2003, they carried out 614 controls, according to DoH data.

[28] Performance data on these services appears in Production of Services table, below.
[29] Performance data on these services appears in Production of Services table, below.

Travel clinic: Provides advice and immunisation services, especially to people travelling outside Bermuda. The travel clinic also provides services to individuals with tropical diseases (e.g. malaria prescriptions). In 2003, it covered 718 individuals, and administered 1,275 travel immunizations, according to DoH data.

Community Health Programme: In a nutshell, this programme includes three services: Health Visitors, District Nurses, and Home Resource Aids. Health Visitors carry out health promotion, health education and prevention activities for families, including post-natal care, visits to the elderly –in rest homes or at their homes, and visits to certain populations (e.g. disabled, substance misuse problems, etc.). According to 2003 DoH data, health visitors carried out a total of 668 visits to new mothers' homes. District Nurses provide mainly primary care at home for the elderly, they also carry out preventative activities such as diabetes and blood pressure monitoring. Home Resource Aids provide basic care at home.

Community Rehabilitation Programme: This programme includes two services: Community Physiotherapy and Occupational Therapy. Community Physiotherapy carries out screenings, and other preventative and early detection activities largely with the school population, the elderly and the physically challenged; it also provides limited care. Occupational Therapy assesses and treats individuals with disabilities, especially school children. According to DoH data, 154 children received some kind of care from Community Physiotherapy and/or Occupational Therapy services in 2003.

Nutrition programme: Carries out health promotion activities in institutions (e.g. rest homes, prisons, schools) and community settings, and via mass media. In 2003, it delivered 159 such activities, according to DoH data. It also carries out controls aimed at early detection of conditions such as obesity, failure to thrive or hypertension. In 2003 it carried out 182 such controls.

Speech Language Programme: Provides speech, language and hearing assessments for children from the age of two. In 2003, 377 children were reached by this programme, following DoH data.

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Communicable Diseases Programme: Briefly, this programme includes two services: the Sexually Transmitted Diseases Clinic and the Community Based Services for Communicable Diseases. The Sexually Transmitted Diseases Clinic provides for the diagnosis, treatment and education of individuals with sexually transmitted infections, including HIV and AIDS. The Community Based Services for Communicable Diseases carries out prevention activities on communicable diseases (e.g. HIV, tuberculosis, etc.) and supports individuals infected with communicable diseases[30].

The National Office for Seniors and the Physically Challenged: provides a one-stop point of contact for seniors and for the physically challenged, assisting them in securing an appropriate level of support and care.

Dental Health Programme: Provides prevention and care services for children as well as care services for certain populations (e.g. seniors in public Residential Care Homes, the prison population, and patients in St. Brendan's). In 2004, according to DoH data, the programme performed the following activities: screenings and seals in primary and middle schools (over 50% of the primary school students and 45% of the middle school students targeted were reached by these activities); distribution of fluoride at schools (1,843 bottles distributed); examination and radiographs (for a 3,658 total diagnoses in 2004); and well as 2,802 preventative procedures (e.g. sealants, prophylaxis, scaling) and 1,949 restorative procedures (e.g. amalgams, caries, steel crowns) . During 2004, the programme also carried out 618 dental health education visits to nurseries and primary schools in the island.

The DoH also runs the following non-personal, population-based programmes:

Environmental Health Programme: Monitors and controls food safety, water supplies and air pollution. It is also responsible for approving plumbing, sewage, water supply and environmentally safe conditions in premises. In addition it carries out promotion activities with respect to food handling. In 2004 this programme performed, among others, the following

[30] Performance data on these services appears in Production of Services table, below.

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activities (DoH data): carried out 1,998 sample-based water controls (e.g. on water, water tanks, sea water, ice-cream manufacturers, sewages, etc.); handled 415 public health nuisance complaints (e.g. air pollution, garbage, drainage, etc.); carried out 2,902 Sanitary Engineering inspections (e.g. new plumbing, sewage plants, cesspits/septic plants, etc.); inspected 2,543 high and medium risk premises (e.g. fish vendors, restaurants, hotels, etc. and bars, nurseries, pharmacies, etc. respectively); inspected 28 Residential Care Homes; and delivered 34 food handling workshops and 19 public education talks.

Vector Control Programme: Assists residents in the control of rodents and mosquitoes on their premises and is responsible for the general control of vermin in public places. According to DoH data for 2004, the Vector Control Programme performed, among others, the following activities: 28,920 mosquito inspections; 16,934 rodent controls; and 15,505 deployments and analyses of ovitraps.

Occupational Health and Safety Programme: Controls standards and promotes improvement in public, private and workplace venues. According DoH data, in 2004 it performed the following activities: inspection of 149 work places; establishment of 74 Occupational Safety and Health Committees; handling of 178 worksite information requests; handling of 65 reported industrial accidents; issuing of 23 contravention notices; and delivery of 21 Safety and Health courses.

Looking now at coverage of the Expanded Programme on Immunization for children under one year of age, data from the DoH for 2003 shows an estimated coverage of 84% (including DtaP/IPV/Hib and MMR)[31].

Prenatal care is carried out by the private and public sub-sectors. There is no publicly-available, systematically collected information on pre-natal care in the private sector. On the other hand, the Maternal Health and Family Planning Programme at the DoH leads on the provision of prenatal care in the public sub-sector. The programme reached between 100 and 160 women annually, in the past five years[32], which represents approximately 15% of annual pregnancies. It

[31] The 84% figure is estimated using actual immunisation figures for the public sector (20% of cases or 161 cases of a total of 774) and an estimate of the private sector immunisations, calculated on doses distributed by the DoH.
[32] 159 in 1999, 140 in 2000, 122 in 2001, 103 in 2002 and 102 in 2003.

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should be noted that expectant women in the public sub-sector attend five to six prenatal visits in the fist 29 weeks of pregnancy, and are then referred to the private sub-sector. Procedures in place in Bermuda stipulate that on week 29, expectant women should be referred to private physicians with an obstetric specialisation, who have referral privileges to KEMH.

Health Services to Individuals

Primary and secondary care

Information provision and availability varies widely between the private and public sub-sectors. There is very limited publicly available information systematically collected with respect to the running of primary and secondary care provision by the private sub-sector in Bermuda and overseas. With respect to the public sub-sector, the two main providers (DoH and BHB) have their own information systems for management of establishments and services. Although both providers are ultimately accountable to the MoH, key recipients of information output are the Chief Medical Officer and Chief Executive Officer in MoH and BHB, respectively. There is no publicly available research to date with respect to the timeliness, reliability or uses of the information provided by information systems in MoH and BHB. However, BHB does produce a publicly available Annual Report that include information regarding managerial, clinical and financial matters of both KEMH and St. Brendan's hospital.

Primary care

Primary care in Bermuda is delivered by the public and private sub-sectors. Exceptional non-routine cases are handled overseas. Coverage data is extremely limited, as there is no publicly available, systematically collected information on the amount of primary care delivered by the private sub-sector, or on the number of private primary care providers with computerised information systems. However, with respect to the latter, judging from the information flow requirements placed by private insurers and BHB, it can be estimated that the majority of primary care providers have computerized information systems. The table below summarises information on primary care delivered by the public sub-sector.

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PRODUCTION OF SERVICES

Indicator	Number		Rate per 1,000 population
	Public	Private	
Consultations and controls performed by medical and non-medical professionals (DoH)			
– Police officers and prison staff programme(2003)	1,497	N/D	N/A
– Communicable diseases treatment consultations (2003)	2,117	N/D	33.7
– Communicable diseases counselling consultations (2003)	2,044	N/D	32.6
– Child Health Clinics consultations – infants (2003)	3,282	N/D	52.3
– Child Health Clinics consultations – school children (2003)	3,335	N/D	53.2
– District Nurses visits (2003)	8,236	N/D	131.3
– Consultations under physically challenged programmes (2003)	1,114	N/D	17.8
– Consultations under Employee Assistance Programme (2004)[33]	4,965	N/D	78.3
Consultations and controls performed by medical and non-medical professionals (BHB)			
– Emergency consultations (2004)	31469	---	496.4
– Outpatient clinic for the indigent (2004)	2,284	---	36.0
Consultations and controls performed by dentists (2004)	3,994	N/D	63.0
Laboratory examinations - King Edward VII Memorial Hosp (2003)	3,558,000		56,712.9
Laboratory examinations - Dept of Health laboratories (2003)	15,695	N/D	250.2
X-rays (2003)	31,134	N/D	496.3

Source: BHB Annual Report 2003-04, Department of Health and Employee Assistance Programme.

Regarding the reasons for consultation with primary care providers, DoH child health data shows that, in 2001, asthma (289 cases), respiratory infections (251), conjunctivitis (160), ringworm (139), and otitis media (118) were the five most frequent reasons for consultation for this age group. There is no publicly available, systematically collected data from private providers.

There are arrangements available for home care by trained personnel in the public and private sub-sectors. The DoH provides home care through its Community Health Programme, in particular, the District Nursing and Home Resource Aids Programmes. With respect to the District Nursing services, DoH data from 2003 indicates that there were eight Registered Nurses, each one with an average caseload of 32 clients. District Nurses carried out 8,236 visits in 2003, providing among services that included wound care, dressings, ulcer treatment, catheter care, colostomy care, etc. In addition, the Home Resource Aids Programme consisted of 11 staff (many of whom were trained locally at the Bermuda College) providing basic care largely to the elderly population (e.g. hygiene and daily living issues such as shopping, laundry, etc.). In 2003,

[33] Employee Assistance Programme (EAP) data was provided by the 'Employee Assistance Programme of Bermuda', a non-profit organisation providing psycho-social support to employees and their families, under EAP arrangements. According EAP of Bermuda data, consultations involved just under 1,350 individuals (approx. 3.5% of the population covered).

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the Home Resource service handled 162 individuals. There is no publicly available, systematically collected data from private providers.

Secondary care

Secondary care in Bermuda is delivered by the public and private sub-sectors. Some specialised and non-routine cases are handled overseas. Coverage data is extremely limited, as there is no publicly available, systematically collected information on secondary care delivered by private providers in Bermuda and overseas. BHB does have computerized information systems for administrative management and clinical management. The table below provides service production data in BHB for the period 2000 – 2004.

SERVICE PRODUCTION

Indicator	Year				
	2000	**2001**	**2002**	**2003**	**2004**
King Edward Memorial Hospital					
Inpatient –acute care					
- Beds	226	226	226	226	211
- Total no. of discharges (incl. deaths)	7,391	7,397	6,863	6,908	6,764
- Occupancy index	70%	71%	67%	69%	71%
- Average length of stay (in days)	7.9	7.9	8.1	8.0	8.2
Continuing care unit					
- Beds	103	103	103	103	104
- Total no. of discharges	88	98	82	66	55
- Occupancy index	96%	93%	94%	92%	95%
- Average length of stay (in days)	393.4	340.6	412.6	516.6	615.8
Hospice					
- Beds	12	12	12	12	12
- Total no. of discharges	86	94	72	78	65
- Occupancy index	58%	44%	57%	72%	63%
- Average length of stay (in days)	29.7	20.6	34.9	39.7	42.5
St. Brendan's Hospital					
Inpatient –acute care					
- Beds	25	25	24	24	24
- Total no. of discharges (incl. deaths)	251	253	278	235	216
- Occupancy index	80%	56%	85%	79%	64%
- Average length of stay (in days)	18.4	19.3	27.0	28.0	26.0
Long-Term & Rehabilitation					
- Beds	95	95	98	98	98
- Total no. of discharges (excl. deaths)	87	79	91	132	92
- Occupancy index	91%	85%	83%	74%	68%
- Average length of stay (in days)	364	425	328	199	265
Tuning Point (Substance abuse – Detox Unit)					
- Beds	N/A	N/A	N/A	8	8
- Total no. of discharges	N/A	N/A	N/A	89	155
- Occupancy index	N/A	N/A	N/A	35%	35%
- Average length of stay (in days)	N/A	N/A	N/A	6	6

Source: Bermuda Hospitals Board

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According to KEMH data, the five most frequent reasons for hospitalisation cited at discharge in 2004 were asthma, pneumonia, chest pain, cerebral artery occlusion and unspecified vascular accidents. Asthma, pneumonia and chest pain were the three most frequent reasons in 2003 too (fourth and fifth being uterine leiomyoma and intermediate coronary syndrome).

Waiting lists or delays in attending patients seem not to be a critical matter in Bermuda's two hospitals, KEMH and St. Brendan's. BHB collects monthly information on cancellations; data shows an average of 30 cancellations per month of which over 50% are attributable to patients' reasons (e.g. no show, patients cancel themselves, patients arrive too late). There is no publicly available, systematically collected information on waiting lists in the private sub-sector.

Quality

Technical Quality

KEMH and St. Brendan's have fully operational quality programmes, run directly by BHB. BHB's 'Quality Management Programme' comprises the following broad elements: quality, risk and utilisation management; infection control; regulatory compliance; ethics; an Ombudsman programme; and patient safety. Within the BHB's quality framework, there is a BHB Ethics Committee, which has been in place since 1996. At present, it has representation from physicians, nurses and other health care workers, social workers, trade union representatives, the clergy, community services and patient advocates.

Looking at deliveries done by caesarean section, according to data from BHB, in 2004 there were 821 deliveries in Bermuda, 29% (239 cases) of which were caesarean deliveries, 2% higher than in 2003 (27% of cases).

With respect to hospital infections, an internal study by BHB on infection surveillance in the caesarean section for the period October 2003 to December 2004, showed an infection rate of 1.4% (total infections reported within 30 days of caesarean intervention; 273 interventions during period of observation). In addition, another BHB internal study covering the same period

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of time but observing catheter-related bloodstream infections reported 1.2 infections/1,000 catheter days. Regarding catheter-related bloodstream infections, BHB's prevention measures included the distribution of self-learning packages to staff, additional precaution with bed handling and introduction of new beds.

According to BHB, 100% of patients are given a discharge report, including care instructions, at the time of discharge. BHB data show that 10% of deaths were autopsied in 2004, and 13% in 2003. Further, all infant deaths are investigated, and there have not been maternal deaths in recent years in Bermuda.

Perceived Quality

Regarding perceived quality and patients' issues in general, BHB has an Ombudsman Service, which operates under the umbrella of its 'Quality Management Programme'. Data from 2004 show that BHB's Ombudsman received a total of 89 formal complaints (87 in KEMH and 2 in St. Brendan's). In addition, the Hospitals Auxiliary of Bermuda (HAB), a non-profit organisation that operates in BHB, provides support to patients such as help with feeding and other basic living needs. HAB is made up largely of volunteers, including Portuguese and Spanish speakers[34]. Waiting rooms in BHB have posters informing patients of their rights and responsibilities, these are in English and Portuguese. Also, individuals admitted to in-patient services are given access to a 'Patient Directory', which includes information on services, procedures, rights and responsibilities of patients. Some sections of the Patient Directory are in Portuguese. In 2005, BHB is joining 'Speak Up', a patient-focused health care error prevention programme championed by the US Joint Commission on Accreditation of Healthcare Organisations. Finally, BHB commissions surveys on patients views as well as opinions of the general public. It also carries out internal surveys on patient satisfaction, some of which are administered by HAB volunteers.

According to empirical data available on public opinion of the overall health care system, Bermuda's residents appear to report a positive opinion overall. According to surveys carried out

[34] Portuguese ancestry is the fourth ancestry in Bermuda, according to 2000 Census, following Bermudian, British and West Indian ancestries.

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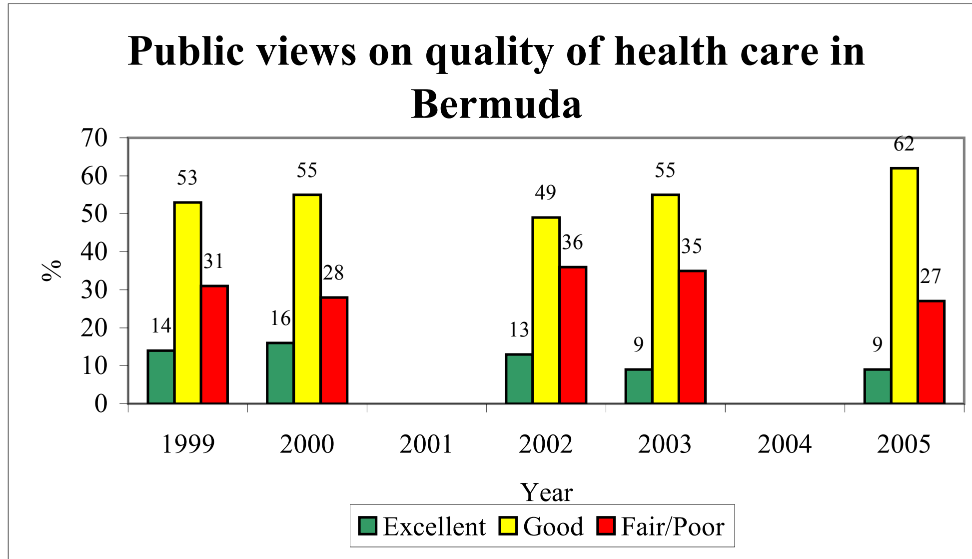
over the past five years[35], the proportion of respondents considering the quality of health care to be 'excellent' has been: 14% in 1999, 16% in 2000, 13% in 2002, 9% in 2003, and 9% in 2005. The proportion of respondents who considered the care to be 'good' was 53% in 1999, 55% in 2000, 49% in 2002, 55% in 2003 and 62% in 2005. Conversely, the care system was rated as 'only fair' or 'poor' by 31% of respondents in 1999, 28% in 2000, 36% in 2002, 35% in 2003 and 27% in 2005. The graph below summarises this point.



Finally, when asked to provide an opinion on the overall quality of care compared to the previous five years, survey participants responded as follow: those who felt that the care had got 'better' were 55% of respondents in 1999, 55% in 2000, 45% in 2002, 36% in 2003 and 42% in 2005; those feeling that it had remained 'about the same were 30% in 1999, 37% in 2000, 39% in 2002, 48% in 2003 and 44% in 2005; and those who felt it had got 'worse' or 'much worse' were 5% in 1999, 6% in 2000, 11% in 2002, 12% in 2003, and 7% in 2005[36]. The graph below summarises this point.

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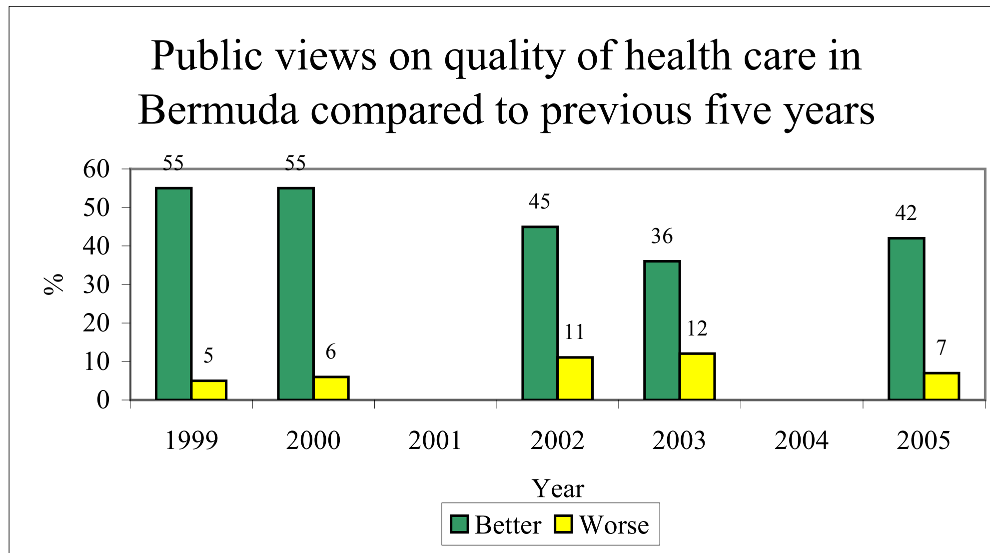
[35] See TMC 2003 for 1999-2003 data, and TMC (forthcoming) for 2005 data.

[36] Sample sizes and overall response rate are provided only for 2003 data, where sample size was 894 with a response rate of 43% (see TMC 2003; 29)



Looking at patient satisfaction data for 2003, the three health care services that showed the highest levels of satisfaction were chronic diseases (78% 'satisfied' or 'mostly satisfied', n=312), rehabilitation services (71%, n=284), and diagnostic testing (70%, n=280). On the other hand, the three services showing the highest levels patient dissatisfaction were health care for seniors, including rest homes (49% 'completely' or 'mostly dissatisfied', n=196), drug and alcohol treatment (39%, n=156), and mental health services for the youth (29%, n=116)[37]. In relation to patient satisfaction with the care received at KEMH, data for 2003 shows that 86% (n=127) of respondents who had been at KEMH in the six months prior to the survey[38] felt 'completely' or 'mostly satisfied', and 5% (n=7) felt 'completely' or 'mostly dissatisfied'. In addition, data available for 2003 on patient satisfaction with regard to access to health professionals show that while 74% of respondents (n=296) felt 'completely' or 'mostly satisfied' with their ability to access professionals, 21% (n=84) felt 'completely' or 'mostly dissatisfied'[39].

Regarding public perceptions on waiting times, there is data available from a study carried out in 2005 on a sample of 400 residents in Bermuda[40]. When asked about waiting times, 42% of respondents (n=166) replied that they were able to see a ***physician*** on the same day they sought

[37] See TMC 2003.
[38] The total sample was 400 individuals, 37%(n=148) of whom had been at KEMH in the six month prior to the survey (TMC 2003: 24-5)
[39] See TMC 2003
[40] See TMC (forthcoming).

care, 23%, (n=91) saw the physician the following day, 13% (n=53) had to wait 2 to 3 days, while the remaining 22% (n=90) had to wait longer or did not answer the question. Asked the same question in relation to ***dentists***, 9% (n=37) were seen by a dentist on the same day, 3% (n=12) had to wait until the following day, 8% (n=31) waited between 2 and 7 days, 32% (n=128) had to wait longer than a week, while 36% (n=157) did not give an answer (34%) or were never able to see a dentist (2%). Also, 15% of respondents (n=59) said they saw the dentist just for a standard six month check.

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Chapter 3: Monitoring and Evaluation of Health Sector Reforms

In Bermuda, like in many countries throughout the Americas, during the 1990s there was significant public deliberation regarding health sector reform. The island witnessed considerable enquiry and examination regarding the need for reform, as well as the form, content, pace and direction that the reform process should take. In particular, comprehensive reform recommendations and strategic action plans were drawn up, proposed, discussed and agreed upon during the second half of the decade[41]. Some of these reports had a high public profile at the time. On the other hand, public reporting on the implementation, monitoring and evaluation of health sector reforms in Bermuda has been more limited. As a consequence, there is insufficient evidence on which to understand and examine the extent of reform progress or the impact of reform actions. Notwithstanding these restrictions, this chapter outlines some of the major reforms that have taken place over the past fifteen years.

Health Sector Reform in Bermuda: Process Issues

A key landmark in Bermuda's efforts to reform the health sector is constituted by the Health Care Review Report of 1996, the 'Oughton Report'. In 1993, Bermuda's Minister of Health, Social Services and Housing announced the formation of a sub-committee, the Health Care Review Sub-Committee, chaired by a member of the Senate, senator Alfred Oughton. This Committee was given the mandate to undertake a review of Bermuda's health care system with the goal of determining whether it:

- Satisfied the health care needs of the population
- Was cost effective
- Was efficient
- Provided an appropriate minimum level of care which was accessible to and affordable by all residents (with due regard for age, income and health status).

The Health Care Review Sub-Committee was formed, according to the Oughton Report, 'in response to community concerns regarding the escalation of health care costs and the quality of

[41] See, for example, Health Care Review Sub-Committee 1996; and AA 1998 and 2000.

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health care afforded to residents in Bermuda'. These matters had been the object of public attention and Government and parliamentary action prior to 1993. In 1970, for example, the Hospital Insurance Act stipulated that health insurance was compulsory for all employed individuals and their spouses, charging employers with the responsibility to ensure their staff were insured[42]. In addition, in the late 1980s and early 1990s, the Government commissioned studies to review health care matters for the elderly population[43], and to examine emergency medical services.[44]

Bermuda's Health Care Review Sub-Committee operated under four expert task groups: Health Care Needs Assessments, Quality of Care, Financing of Care and Health Care Costs. These task groups conducted a wide variety of reviews of a technical nature as well as involving a range of stakeholders, including the general public. The latter were consulted, according to the Oughton Report, via open meetings in town halls and questionnaires.

The Oughton Report generated a wealth of findings and produced over 100 recommendations, touching on a wide variety of elements of the health system. The main messages can be summarised as follows:

- Acknowledgement of the segmented nature of Bermuda's health system, and recommendation for the creation of a central body, with shaping, monitoring and research responsibilities. In particular, it advocated the establishment of an umbrella organisation, the Bermuda Health Council.
- Recognition of the benefits of health promotion and infirmity prevention policies and actions, and recommendation for strengthening these areas through health education, personal responsibility, etc.
- Acknowledgement of a perennial tension between public expectations and available resources (e.g. human, technological, financial, etc.), with recommendation for Government

[42]The Act granted employers the right to recover health insurance premium costs from the employee, up to 50% of the basic mandatory level of coverage (SHB), and up to 100% of coverage in excess of this.
[43] Chappell, N. and Marshall, M 1991. A Study of the Needs of Elderly People in Bermuda. University of Manitoba and University of Toronto; Department of Management Services 1992. Co-ordinated Case Management of Community Services for Bermuda's Elderly; and Department of Management Services 1994. Parish Councils Rest Homes.
[44] Department of Management Services. Review of Emergency Medical Services in Bermuda Phase 1.

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to endeavour to maintain a balance, especially via the SHB, and via care provision regulations of (e.g. medical, dental, pharmaceutical, etc.).

- A belief in the positive contribution of market forces in the health system, with a recommendation for continuing to rely on market mechanisms.
- Acknowledgement of the criticality of the elderly population, with a recommendation to strengthen the health system's ability to deal with this population group.

An interesting characteristic of the Health Care Review Sub-Committee was that throughout the duration of the review (nearly three years), actions were proposed and implemented following interim findings. For example, reforms were introduced in services delivered by St. Brendan's Hospital and a pilot programme for Home Care was launched.

In 1997, the Government commissioned a private consulting firm, Arthur Andersen (AA) to analyse and prioritise the recommendations of the Oughton Report. AA was at the time involved in consultancy work with BHB. AA reported back to Government in 1998[45], proposing the following simplified set of eight recommendations:

1. Promote the use of alternative and preventative care services, sites and personnel
2. Develop partner relationships and contracts with overseas providers
3. Implement disease management and prevention programmes
4. Evaluate and address physician-owned ancillary services and equipment
5. Develop universal billing and coding format
6. Create a central data repository for all health care data
7. Develop alternative reimbursement methodologies for hospital, physicians and ancillary providers
8. Provide mentoring and technical expertise to MoH to allow it to provide overall direction to the health systems

Each of the eight recommendations was accompanied by a detailed action plan to put these into practice. In addition, for some of the recommendations (e.g. partnering with overseas providers),

[45] See AA 1998.

accomplished implementation steps were presented. The Government approved AA's eight recommendations, which were embraced in full by Cabinet in early 1998.

Health Sector Reform in Bermuda: Content Issues

The Oughton Report's recommendation and AA's interpretation of these provided the basic framework for health reform action for the late nineties and the early twenty-first century. This section summarises publicly available information regarding key actions taken to date under the island's health system reform process.

Perhaps the single most important change is the creation of the Bermuda Health Council (BHC), which represents a crystallisation of the Oughton Report's recommendation on the establishment of an umbrella organisation to oversee the health system in full. The parliament produced a specific piece of legislation for this purpose, the Bermuda Health Council Act 2004, which was passed in the second half of 2004 and is expected to come into force in 2005. The BHC is a stand-alone organisation made up of civil servants, and other members appointed by the MoH. According to the law, the purpose of the BHC is 'to regulate, coordinate and enhance the delivery of health services'. Its main areas of responsibility can be described succinctly as:

Health System Goals – The BHC has a mandate to identify and make public the goals of Bermuda's health care system. The Act makes an explicit reference to the level of health element of the system's goals[46]. In fact, a function of the BHC is, according to the Act, to 'promote and maintain the good health of residents of Bermuda'[47].

Health System Functions – With respect to the functions of Bermuda's health system, the main role of the BHC is stewardship. The BHC has a mandate to, among others: (i) to make recommendations to the MoH on health services priorities; (ii) to assess health service performance; (iii) to licence and regulate health service providers, including setting fees; (iv) to

[46] See Murray and Evans 2003, and Murray and Frank 2000.
[47] It should be noted that the Act does not make explicit reference to either the quality of responsiveness or the distribution element (i.e. distribution in health, responsiveness and financing) of the health system's goals.

licence health insurers; and (v) to regulate drug prices. The BHC also has health service provision responsibilities, in particular, in the coordination and integration of provision, and in the establishment and promotion of wellness programmes. Finally, the BHC is responsible for elements of the financing and resource generation functions of Bermuda's health system. Regarding financing, the BCH is has a mandate to manage the HIP; with respect to resource generation, the BHC is expected to carry out research and data collection activities on health status matters as well as on other elements of the health system.

As the paragraphs above indicate, the BHC's role absorbs in one central body many of the health system functions that were not fully developed in Bermuda, especially with regard to stewardship, coordination of provision and research. The BHC constitutes a very important step in the reform of Bermuda's health sector. It is expected to be closely followed by stakeholders in the health system and other social systems in Bermuda, as its actions and performance might have an impact outside the health domain. In addition to the establishment of the BHC, Bermuda's health system has undergone reform in other areas. In the remainder of the chapter, we introduce and examine some of these.

Let us start by looking at reform regarding the elderly population; summarised below are main actions implemented -or that are in the process of being implemented- relating to the health of seniors:

- Creation of the National Office for Seniors and the Physically Challenged: Provides a one-stop point of contact for seniors and for the physically challenged, assisting them in securing an appropriate level of support and care.
- Government subsidy for pharmaceutical products: It is for people aged 65 and over and enrolled to HIP (up to a limit of $1,000 per year). This subsidy is in addition to the Indigent Subsidy, which also allows individuals to access pharmaceutical prescription products free of charge.
- Wellness Clinics for Seniors: Not yet in operation, these clinics will act as multidisciplinary primary care points for the elderly

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- Seniors Health Issues Forums: Introduced in the 2004 Government 'Social Agenda', these will give the elderly population the opportunity to receive information and support with respect to their health needs

With respect to service provision, and following the recommendations of the Oughton Report and AA's action implementation plans, as well as in response to broader issues (e.g. new technologies, new developments in for example, HIV/AIDS treatment, etc.) a variety of changes were introduced between the late 1990s and early 20th century in Bermuda.

- Management changes in BHB: BHB introduced a variety of changes, in particular under the Programme Management philosophy. Care maps were introduced in KEMH in the late 1990s and the change process is still underway. There are protocols in place for certain conditions such as asthma, blood pressure, pneumonia, caesarean sections, hip replacements and HIV. In addition, the hospital instituted a departmental structure, creating department chief positions for surgery, medicine, and paediatrics.
- Service provision expansions: Introduction in Bermuda of:
  - (i) Magnetic Resonance Imaging units (in the public and private sub-sectors)
  - (ii) Hyperbaric Chambers and Wound Care facilities and programmes (KEMH)
  - (iii) Intensive Care Unit (KEMH), consisting of nine beds one of which is paediatric
  - (iv) In-patient detoxification unit (St Brendan's)
- Modernisation of BHB facilities: In 2004, BHB commissioned a study for the production of an Estate Master Plan in order to modernise existing facilities.
- Disease Management and Prevention Programme: Introduction of a programme to target specific diseases in Bermuda (i.e. asthma, cardiac disease and diabetes). This programme was led by the MoH, with support from AA consultants.

Finally, other relevant actions taken in relation to the reform of Bermuda's health system can be summarised as follows:

- Purchasing of services: Under this function, several changes have taken place, including the creation of a Joint Committee on Medical Charges Fee Schedule (to assist the MoH in regulating the pricing of fees to be charged for procedures in or partially in the hospitals) and

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the Hospital Reimbursement Initiative (to improve BHB reimbursement policies and mechanisms).

- Regulation: The list below highlights major pieces of legislation introduced since 1993 related to regulation of elements of Bermuda's health system:
  - (i) Alcohol Advertisement (Health Warning) Act 1993, regulating alcohol advertising, and compelling advertisements to carry health warnings
  - (ii) National Drug Commission Act 1993, establishing and regulating the National Drug Commission
  - (iii) Bermuda Hospitals Board (Medical Staff) Regulations 1996, regulating conditions of practice by physicians making use of BHB facilities
  - (iv) Nursing Act 1997, superseding the Nurses Act 1969, and providing a new regulatory framework for the nursing profession
  - (v) Mental Health Amendment Act 1998, modifying the Mental Health Act 1968, and bringing about, among others, changes regarding the assessment and care of individuals with mental health conditions
  - (vi) Psychological Practitioners Act 1998, establishing, among others, the Bermuda Psychologists Registration Council, and providing regulation of this profession
  - (vii) Residential Care Homes And Nursing Homes Act 1999, regulating the registration and functioning of care facilities for people aged 65 and over or with disabilities.
  - (viii) Public Health (Hospitals) Regulations 2002, regulating the registration of hospitals in Bermuda
  - (ix) Chiropractors Act 2002, regulating the profession of chiropractor and establishing the Chiropractic Registration Council
  - (x) Health And Safety At Work Amendment Act 2004, modifying the Health and Safety at Work Act 1968, and bringing about, among others, changes in health and safety language (i.e. 'occupational health and safety' instead of 'health and safety at work'), and new rights, duties and responsibility for employers, employees and public officials
- Insurance: The SHB has been continuously reviewed and updated, incorporating new health care services or expanding existing services, as mandatory benefits, in accordance to the Hospital Insurance Act 1970.

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– Resource generation: Establishment at the Bermuda College (the only higher education institution) of accredited training courses for Home Resource Aids, and setting up of a nursing programme in conjunction with Hampton University in USA.

Assessing the Impact of Health Sector Reforms in Bermuda

Evaluating the results of the health reform processes is, in conceptual terms, a dynamic and evolving endeavour. There are many elements that act as constraints in the process of assessing reform; in the Bermudian context these include, as mentioned at the beginning of this chapter, the limited available documentation on health reform implementation, monitoring and evaluation. Nonetheless, a number of observations can be made regarding the interplay between health sector and Bermuda's population and institutions.

The total costs of health care in Bermuda

A running theme cutting across the Oughton Report was that of the rising costs of healthcare in Bermuda. 'Escalating costs' was one of the reasons for the establishment of Health Care Review Sub-Committee. Further, health care costs increases were dealt with at length in the Report, in terms of both past trends and estimates for the future. Indeed, predicted values were calculated and discussed. The graph below reproduces the real and predicted values elaborated in the Oughton Report, plotting them against the findings presented in chapter two 'The Health System', Financing and Expenditure section.

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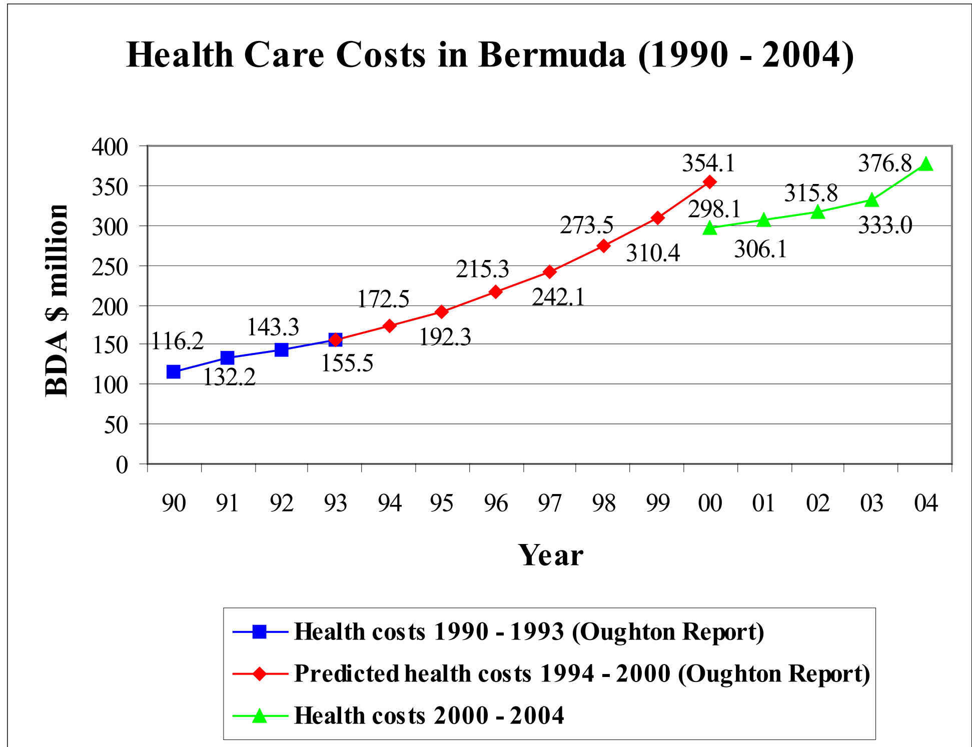


Oughton Report data were real data for the period 1990 to 1993 and predicted data for the period 1994 to 2000. As the graph shows, total health care costs did increase in the period under observation, although growth did not prove to be as sharp as envisaged[48]. We can look at this issue in more depth by comparing the rate of increase of health costs to that of GDP. Indeed, while during the period 1990 – 2004 health costs grew at an average of approximately 8.7% per annum, in the same period GDP grew approximately 5.0% per annum. A key message emerging from this analysis is that health costs in Bermuda have experienced accelerated growth over the past 15 years. Further research is needed to better understand the dynamics underpinning this phenomenon.

The financing of health costs in Bermuda

As illustrated by the data above, findings lend substance to the argument that health costs in Bermuda are growing firmly. But let us look at this point from a different angle and focus on the financing of the health system costs. Again, we make reference to findings discussed in the

[48] Indeed the BDA$354.1 million predicted costs for 2000, contrast with the BDA$298 million actual costs for that year. The BDA$350 million line was reached only in the 2003/04.

Oughton Report, comparing them to findings presented in this study. The table below illustrates this point.

HEALTH CARE COSTS FINANCING COMPARISON: 1993 (OUGHTON REPORT)[49] & 2004

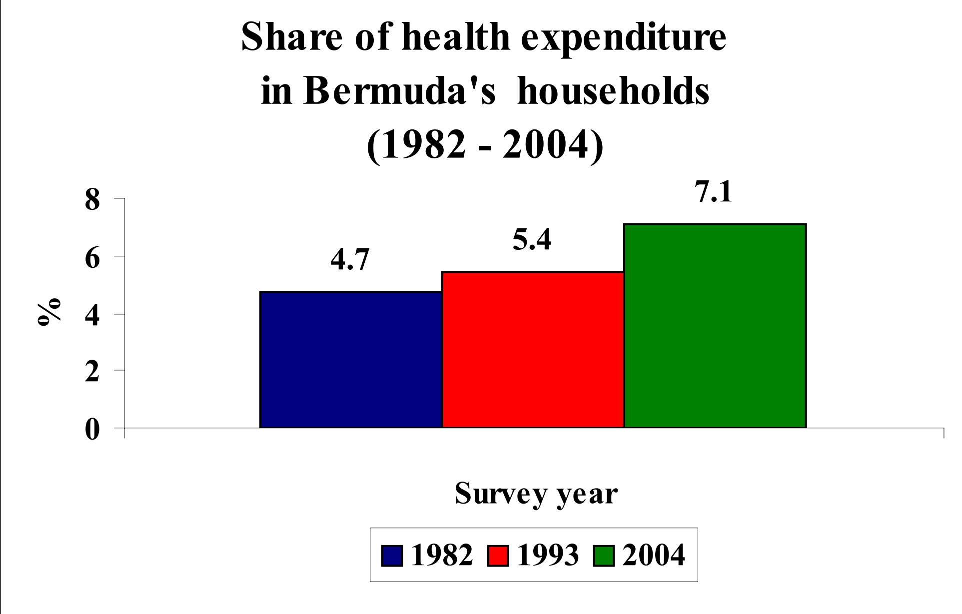
	1993		2004	
Indicator	**BDA$ Million**	**%**	**BDA$ Million**	**%**
Public sub-sector				
- Funds from the Consolidated Fund (Government)	51.6	39	110.2	29
- Other (e.g. sale of goods & services, investment)	---		4.7	1
Total public sub-sector	51.5	39	114.9	30
Private sub-sector				
- Private insurance	56.1	42	191.4	51
- Non-profit	---	---	12.9	4
- Household financing	25.4	19	57.6	15
Total private sub-sector	81.5	61	261.9	70
Total public and private sub-sectors	**133.1**	**100**	**376.8**	**100**

The data above show that there has been a shift in the burden of financing of health care costs from the public to the private sub-sector. Indeed, while in 1993, 39% of costs were financed by the public sub-sector (i.e. by the Government), the public contribution was down to 30% in 2004. On the other hand, the private sub-sector contribution went up from 61% in 1993 to 70% in 2004. The private insurance element grew from 42% in 1993 to 51% in 2004.

Another way of looking at the shift from public to private is by looking at the rate of increase of costs and of financing, and especially, at the decreasing share of public financing. As mentioned above, during the period 1990 – 2004 health costs growth was sharper than GDP growth (i.e. approximately 8.7% and 5.0% per annum respectively). In addition, Government's share of GDP stayed roughly constant (i.e. between 18% to 22%) as well as the level of Government monies dedicates to health (i.e. between 15% to 17%). So costs have grown faster than the economy, while Government's share of the economy, and the share of health expenditure within Government's expenditure have remained constant. The emerging gap appears to have been filled by the contribution of the private sector.

[49] Total costs for 1993 were BDA$155.5 million. However, the section in the Oughton Report dealing with Health System Financing identified funding for BDA$133.1 million only; that is, 86% of the total costs.

Additional empirical support can be given to this point by looking at the share of health expenditure by households. The data from household expenditure surveys conducted in 1982, 1993 and 2004[50] presented below can help us address this issue.



There has been a steady increase in the share of expenditure that households in Bermuda dedicate to health care costs (i.e. health insurance, out of pocket expenses for care services such as physicians and dentists, and out of pocket expenses on pharmaceutical and other medical appliances). An average household in Bermuda dedicated 4.7% of its budget to health costs in 1982, 5.4% in 1993 and 7.1% in 2004[51]. To quantify these percentages in BDA Dollars, 7.1% represents an expenditure of nearly BDA$150 million per year.

It is important to note that employers in Bermuda, as contributors of nearly half of the cost of health insurance premiums, have also felt the impact of growing health care costs, especially as it has been established that this growth was mostly absorbed by the private sub-sector. This element of impact has not been studied in this research.

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[50] Data from 2004 Household Expenditure Survey is preliminary data.

[51] When calculating share of health expenditure as part of the total household expenditure, monies used by households in purchasing food are excluded from the total expenditure, as food is considered an essential good. Nevertheless, expenditure on food purchased in restaurants, take-out meals, etc. are not considered essential.

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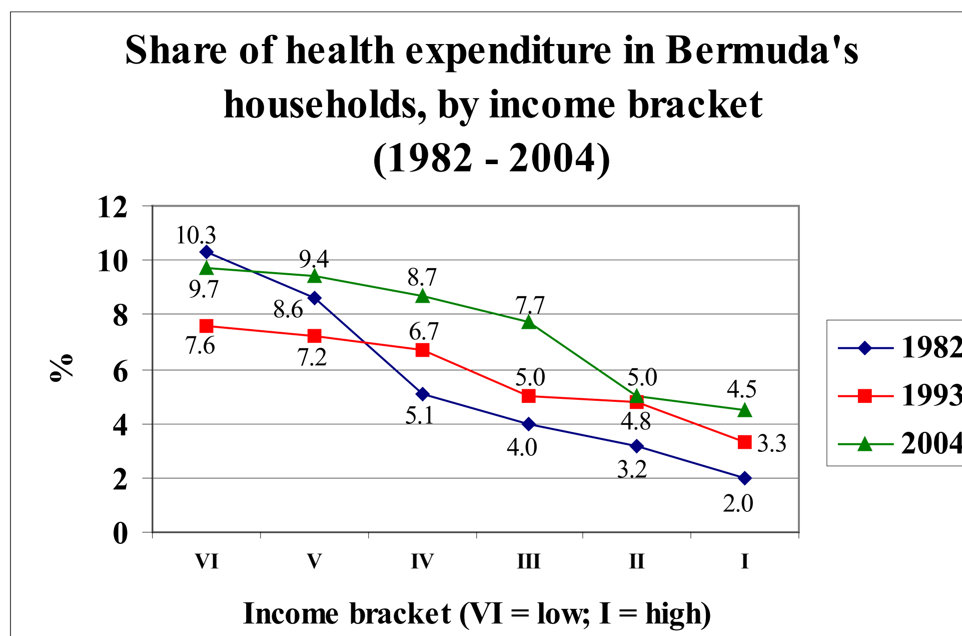
Distribution of health care costs financing

Having established first, that health care costs are growing, and doing so faster than the economy; second, that the private sub-sector is absorbing a larger share of this increase than the public sub-sector; and third, that this has impacted on the budgets of the average household (and of employers), let us now focus on the distribution of health expenditure among some of the population's sub-groups. In other words, let us explore the issue of fairness with respect to health care financing[52].

Focusing on the burden of health costs on household expenditure by income, the graph below depicts the distribution of health expenditure in the various income brackets for the period 1982 – 2004.



There are three especially noteworthy points. First, that nearly all income brackets experienced an increase in the share of health expenditure between 1982 and 2004. Second, a picture of inequity emerges from the data; lower-income households consistently dedicate a higher share of

[52] According to WHO, a health system is fairly financed if 'the households contribution to finance the system represent an equal sacrifice. Equal sacrifice means that no household would become impoverished or pay an excessive share of its income to finance the health system. It also means that poor households should contribute a smaller share of their income than rich households' (Murray and Evans 2003: 8).

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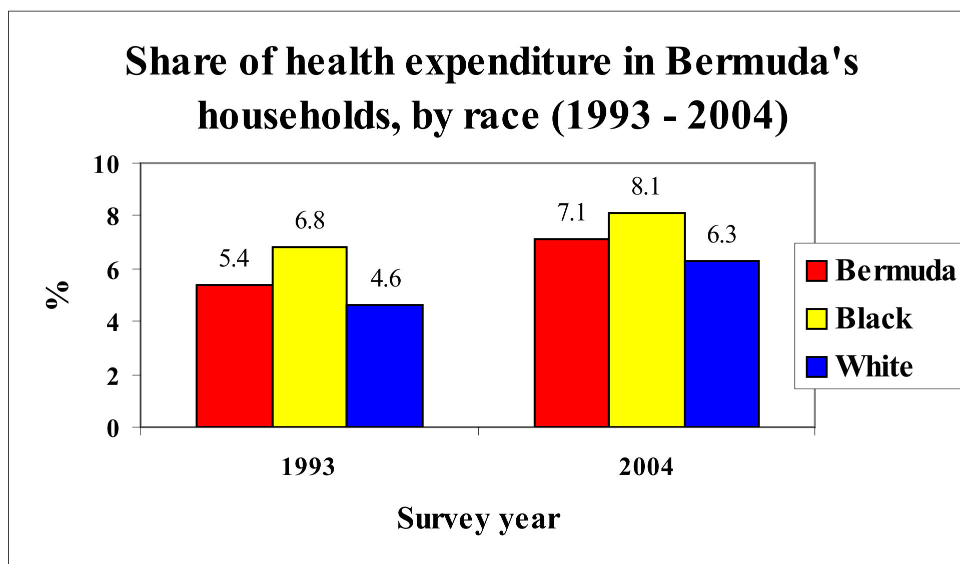
household expenditure to health, than higher-income households. Third, while the gap between brackets VI and I was fivefold in 1982 (10.3% and 2%), it has narrowed to approximately two-fold in 2004 (9.7% and 4.7%).

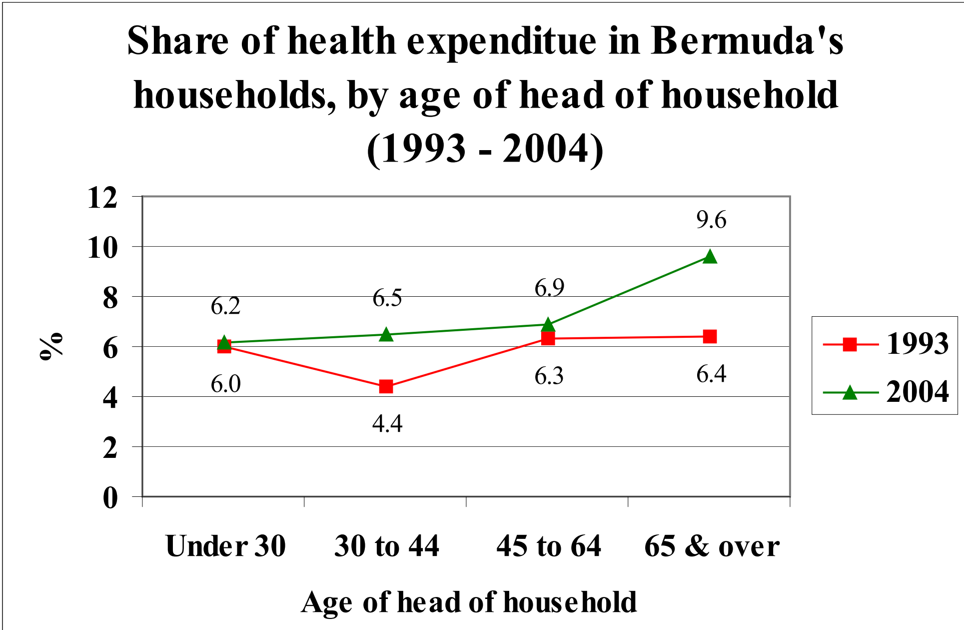
Finally, and to add to the above, looking at distribution of indirect financing of the health system via the share of tax in household expenditure, low-income bracket households bare a higher burden of tax than high-income households. Data from 1998 show that while the share of tax in low-income households was 22% of total expenditure, it was 11.9% in high-income households[53].

Looking now at the share of health expenditure by race of the household, in 2004 black households dedicated 8.1% of total expenditure to health, and white households spent 6.3%. These figures were 6.8% and 4.6% respectively in 1993, as the graph below illustrates. Again, as with income, the gap between black and white households' contribution to health costs appear to be closing, from 2.2% in 1993 to 1.8% in 2004.



[53] The total share was as follows: 16.1% for all Bermuda; 22% for bracket VI; 20.9% for bracket V; 18.5% for bracket IV; 17% for bracket III; 15.5% for bracket II; and 11.9% for I (see Gutman and Toder, 1999).

To conclude, looking at fairness in health care financing by age, households headed by seniors show disadvantage. In 1993, for example, the share of health expenditure among households headed by different age groups was fairly distributed, with approximately all households dedicating 6% of their income to health. In 2004, on the other hand households headed by the elderly population appeared to have suffered from a higher share of health expenditure (increase from 6.4% in 1993 to 9.6% in 2004).



Final remarks

To reiterate, assessing the impact of health systems reform is not a simple and lineal process. In the case of Bermuda, the Bermuda Health Council is bound to impact on the pace and integrality of the reform process. The BHC has been charged with key elements which, as this research has hopefully highlighted, seem to be weak in Bermuda's current health system. For example, the provision of overarching policy lead, the coordination, supervision and guidance of health care delivery, the regulation of system functions (in particular, provision and financing), and the generation of systematic research to contribute to the Bermuda's health system evidence-base.

Bermuda's health system appears to perform better in terms of level of care, than in the distribution of both care and financing. For example, the very high life expectancy, the extremely

low infant and maternal mortality –underpinned by a comprehensive maternal health care system, or the first-rate record on HIV/AIDS prevention and care are proof of the high quality of Bermuda's level of care. However, disparities in life expectancy, insurance coverage and distribution of health financing, in particular affecting low-income, senior-headed and black households, indicate the existence of pockets of inequity. The BHC has been mandated to address these matters. Most importantly, BHC has an explicit mandate to 'promote and maintain the good health of residents of Bermuda'. Future updates of the Bermuda Health Systems and Services Profile will, with time, assess progress made by the BHC in particular, and by Bermuda's health system in general.

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Abbreviations

AA – Arthur Andersen

AIDS – Acquired Immune Deficiency Syndrome

BDA$ – Bermuda Dollar

BHB – Bermuda Hospitals Board

BHC – Bermuda Health Council

DoCA – Department of Consumer Affairs

DoH – Department of Health

EAP – Employee Assistance Programme

EPI – Expanded Programme on Immunisation

GEHI – Government Employees Health Insurance

GP – General Practitioner

HAB – Hospitals Auxiliary of Bermuda

HIC – Health Insurance Commission

HIP – Health Insurance Plan

HIV – Human Immunodeficiency Virus

KEMH – King Edward VII Memorial Hospital

LCCA – Lady Cubitt Compassionate Association

MoCAS – Ministry of Community Affairs and Sports

MoE – Ministry of Education and Development

MoF – Ministry of Finance

MoH – Ministry of Health and Family Services

MoT – Ministry of Transport

MRF – Mutual Reinsurance Fund

NDC – National Drug Commission

SHB – Standard Hospital Benefit

STI – Sexually Transmitted Infection

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