

GRENADA

**NATIONAL STRATEGIC PLAN FOR
HEALTH**

(2006-2010)



SITUATIONAL ANALYSIS

Health for Economic Growth and Human Development

October 2005

GRENADA - NATIONAL STRATEGIC PLAN FOR HEALTH (2006-2010)

SITUATIONAL ANALYSIS Health for Economic Growth and Human Development

October 2005

1.0 INTRODUCTION

This paper is the second deliverable of a consultancy between the Ministry of Health – Grenada and the Nuffield Centre for International Health and Development, University of Leeds, UK (Consultants for the University of Leeds are Dr. Ricky Kalliecharan and Professor Andrew Green). The objective of the consultancy is to assist the Government of Grenada/Ministry of Health to develop a National Strategic Plan for Health (2006-2010).

This document is prepared as a result of interviews with key stakeholders and document analysis conducted by Dr. Kalliecharan during a visit to Grenada from 12th to 21st September 2005. Reference and list of interviewees are provided in an earlier Concept Paper. This analysis provides a descriptive assessment of specific country characteristics which have an effect on health. It also outlines details of the population's health status, discusses the features of the health services and the systems which support the provision of health care in Grenada.

2.0 AREA AND POLITICAL CHARACTERISTICS

Grenada is a tri-island state comprising the islands of Grenada, Carriacou and Petit Martinique with a total land area of 133 sq. miles. It is the most southerly of the Windward Islands in the Caribbean.

The island Grenada itself is the largest island; smaller Grenadines are Carriacou, Petit Martinique, Rhonde Island, Caille Island, Diamond Island, Large Island, Saline Island and Frigate Island. Most of the population lives on Grenada itself, and major towns there include the capital St. George's, Grenville and Gouyave. Largest settlement on the other islands is Hillsborough on Carriacou.

The islands are of volcanic origin, and Grenada's inlands are slightly mountainous, with several small rivers flowing into the sea. The climate is tropical: hot and humid, and Grenada occasionally suffers from hurricanes. The most recent storms to hit have been Hurricane Ivan in September 2004 and Hurricane Emily in July 2005.



Box1: Map of Grenada

2.1 Political Characteristics

Grenada is a member of the British Commonwealth. It gained independence from the United Kingdom on 7 February 1974 and currently has a stable democratic political environment with a Westminster-style parliament.

As Head of State, the Governor General represents Her Majesty, Queen Elizabeth II. The Prime Minister is Head of the Cabinet. The 13-member cabinet is composed of the Prime Minister and Minister of National Security, Information, Human Resource Development, Youth Development, Business and Private Sector Development and Information Communication Technology; Minister of Carriacou and Petit Martinique Affairs, Legal Affairs and Foreign Affairs and International Trade; Minister of Finance and Planning; Minister of Communication, Works and Transport; Minister of

Agriculture, Lands, Forestry and Fisheries, Public Utilities, Energy and the Marketing and National Importing Board; Minister of Tourism, Civil Aviation, Social Security, Culture, and the Performing Arts; Minister of Education and Labour; Minister of Social Services, Gender and Family Affairs and Housing; Minister of Sports, Community Development and Co-operatives, with responsibility for Community Development and Co-operatives and is also Minister in the Ministry of Finance with responsibility for Revenue Administration; Minister of Health, Social Security (National Insurance Scheme) and the Environment; Minister in the Ministry of Sports, Community Development and Co-operatives with responsibility for Sports; Minister of State in the Prime Minister's Office with responsibility for Business and Private Sector Development, Information and ICT; Minister of State in the Prime Minister's Office with responsibility for Youth Development.

2.1 Demographic Information

Grenada's estimated population in 2004 was 104,718. The 2001 population census and Mid-year estimates for 2003 suggest a population of 100,895 and 102,632 respectively. Estimated population growth rate for 2005 is at 0.19%. Age distribution of the population in 2004 is as follows:

Age group	Male	Female	Total
<1 yr	933	1005	1938
1 – 4 yrs	3610	3629	7239
5 – 14 yrs	11767	11887	23654
15 – 24 yrs	9444	10031	19475
25 – 44 yrs	13562	13378	26940
45 – 64 yrs	7237	7427	14664
65 +	4871	5937	10808
Total	51424	53294	104718

Box 2: Age distribution of Population in Grenada (2004)

The population structure is young with 31.4% of the population below the age of 15 years and 10.32% are 65 years and over. With life expectancy currently estimated at 70.7 years, the population group aged 60 years old and above is expected to increase over the next decade. This will put a great burden on the health systems with regards to supportive environments and senior-friendly goods and services.

The 1991 Census showed 33.5% (urban population) of the population resided in the capital St. George's compared with 33% in 1981. Population density is at..... However, the pace of development in the southern part of St. George's, in particular within the tourism and manufacturing sector, has resulted in an increase in the number of persons migrating there from other parts of the country to seek employment. It would seem that people travel to work in this area as the censuses of 1981 and 1991 have shown little change in where people live. This would seem consistent with the apparent increase in road traffic, and from which may be related to the increase in injuries and deaths from road traffic accidents.

The 1991 census showed ethnic composition of the population as Black (85%), Mixed (11%), and East Indian (3%).

2.2 Religious and Educational Characteristics

The 1991 census showed religious affiliations as Roman Catholic (53.1%), Anglican (13.9%), Seventh Day Adventist (8.6% and Pentecostal (7.2%).

In 2002, the adult literacy rate was estimated at 94.4% of the population. There was a student-to-teacher ratio of 25:1 in the 58 public primary schools and 22:1 in the 19 secondary schools in 2002-3. There are also 14 private primary schools in the country. Between 2002 and 2003, there were 52 dropouts from the primary school system (38% males and 14% females) and, during that same period, there were 213 dropouts from the secondary school system (92 males and 121 females). The pass rate for common entrance examination continues to border around 40%, while that for school-leaving exam remains at 20%. Among students taking Caribbean Council Examination (CXC) pass rate in the last five years have been generally consisted at:

- 2000 - 63.3%;

- 2001 - 66.0%;
- 2002 - 64.0%;
- 2003 - 67.4%;
- 2004 - 65.0%;
- 2005 - 61.8%.

The implications of the educational status in the country suggest a need to focus on post common entrance education and general investment in youth. The Government has responded to this challenge as the responsibility for Youth Development has been given national priority and is current situated in the Prime Minister's Office. In addition, investment in education is high with the Ministry of Education capital expenditure estimates for 2005 at 11.2% of total capital expenditure, when compared to Ministry of Health capital expenditure estimates for 2005 at 5.3% of total capital expenditure. In fact, capital expenditure on the social sector (Health, Education, Youth & Sport, etc) account for 30.8% of total government expenditure for 2005.

3.0 SOCIO-ECONOMIC SITUATION

The 2004 UNDP Human Development Report's Human Development Index ranked Grenada 93rd of the 177 nations. The economy of Grenada is based upon agricultural production (nutmeg, mace, cocoa, and bananas) and tourism. Agriculture accounts for over half of merchandise exports, and a large portion of the population is employed directly or indirectly in agriculture. Recently the performance of the agricultural sector has not been good with a decline in banana exports. The agriculture sector has been damaged by hurrican Ivan in 2004. Tourism remains the key earner of foreign exchange. In 2000, the GDP - composition by sector was:

- Agriculture: 7.7%
- Industry: 23.9%
- Services 68.9%

The robust performance of the tourism industry (6% and 14% in 2002 and 2003 respectively) indicated that the sector was poised for a definitive recovery following the effects of the September 11th events. In 2003, the total number of visitors and tourism expenditure grew 9% and 23% respectively.

For 2004 and 2005, the growth rate of the economy was report by the Ministry of Finance at -3.02% and 1.9% respectively (See Box 3). Economic projections for 2006, 2007 and 2008 are at 7.0%, 5.4% and 4.5% respectively.

Economic performance by Sector in Grenada (GoG/MoF)

SECTOR	2002	2003	2004	2005
Agriculture	65.70	64.10	59.40	37.98
Manufacturing	54.32	52.99	45.23	40.93
Construction	53.59	67.53	66.96	87.05
Hotels & Restaurant	54.09	61.58	53.53	48.18
Transport	88.23	94.82	99.75	103.34
Communication	84.00	85.58	91.74	94.95
Banks & Insurance	78.89	85.20	87.33	89.95
Government Services	93.68	94.23	97.54	99.49
Total	676.30	715.55	693.91	707.11
Growth Rate	0.84	5.80	-3.02	1.9

Box 3: Economic performance by sector in Grenada

This growth is fuelled by developments in the agriculture and construction sectors and in the tourism industry. In addition, this optimism is threatened by the economic loss as a result of Hurricane Ivan in 2004. Economic activity was projected to decline by approximately -1.3 percent in 2004 (resulting in an overall impact of 5.7%) reflecting a contraction in tourism and the halt in production of traditional crops. In the following year, the economy is projected to remain stagnant as the tourism industry continues to be weak and production of nutmeg ceases. Thereafter economic growth is projected to average 4.0 per cent mainly on account of the strong growth in construction, and a halt in the decline of tourism and agriculture.

3.1 Employment

The labour force in Grenada is estimate at approximately 42,300 (1996) with a distribution by sector as follows: agriculture 24%, industry 14%, services 62% (1999).

The national rate of unemployment in 2000 was 12.5 %. However, this is considerably higher among women, youths and rural citizens.

National Insurance Scheme (NIS) data and anecdotal reports indicate a high incidence of traumatic injuries associated with occupational accidents, especially in the construction industry, retail trades, restaurants/hotels and manufacturing sectors. The majority of injuries in the construction sector are to eyes, finger, foot, hand and head, and in some cases disabling injuries. It appears that the most prevalent types of accidents occurring in the construction sector were related to the improper use of machinery, equipment and a lack of personal protective equipment (PPE). Injuries account for a high percentage of hospital admissions at the accident and emergency.

A Workers' Health Plan was developed in Grenada in 1996 with PAHO's assistance. In a review of the plan in 2000 it was recommended that the plan be incorporated into the National Health Plan.

Risk factors identified in Grenadian workplace include physical overload, musculoskeletal stress, psychological stress and ergonomic risk. Pesticide hazards and respiratory illness have also been highlighted as areas of concern. Grenada also lacks comprehensive health and safety legislation to respond effectively to the risk identified.

3.2 Poverty

A Poverty Assessment Survey conducted in Grenada in 1998 revealed that 31 percent of the population is poor. The poverty line is estimated at US\$ 1231 per adult per annum or a daily rate of US\$ 3.37 per adult. Thirteen percent (13%) of all individuals in the country are indigent. Fifty-one percent (51%) of persons under the poverty line are women. Fifty-two percent (52%) of female heads of household live below the poverty line. Twenty-four percent (24%) of all female heads below the poverty line are outside of the labour force. Twenty percent (20%) of persons living below the poverty line are unemployed. Over sixty-four percent (64%) of the poor have no educational certificate. Fifty-six percent (56%) of individuals living below the poverty line are under the age of twenty-five years, 51% are less than 20 years, 38% are school aged and forty percent (40%) are pre-schoolers.

The impact of poverty and health in Grenada is of particular concern in terms of gaining access to care and also in responding to health needs. A common assumption is that those who are in the greatest need for health care are the most underprivileged in a society. The poverty statistics in Grenada reveal that there is a possibility that health services may not be responding to specific groups within the society, especially women, youth and the unemployed. Reports from health workers suggest that the links between poverty and access to health care in Grenada is an area for further investigation.

3.3 Housing

As a result of Hurricane Ivan in 2004, an Emergency Housing Policy was implemented By the Ministry of Housing and Social Development with the goal to reduce suffering, inconvenience and vulnerability of people in Grenada by assisting them to repair and replace houses damaged or destroyed. This policy took into account the mental health of the population after the hurricane. The devastation following the hurricane was estimated to be:

- 90% or approximately 27,000 of houses damaged or destroyed
- 30% or approximately 10,000 houses will require replacement
- 70% or approximately 22,000 houses will require significant repairs

The implementation of the policy has taken place in three phases and included:

- Construction of 334 home
- Implementation of a Soft Loan Programme
- Donation of building material to 4,000 families
- Supply of material and labour to 1,000 families (mainly for elderly and physically challenged)

4.0 HEALTH SITUATION

The population of Grenada enjoys a relatively stable health status when comparing health indicators over the period (1998-2002). Infant mortality ranged between 12.5 and 19.6 (deaths per 1,000 births). Maternal mortality rate has been zero for four year. Death rate ranges from 7.0 to 8.7 (per 1,000 population) (See Box 4).

In addition, life expectancy in Grenada is at 68 years for men and 72 years for women (Comparable to developed countries). The total fertility rate over the 1992-1995 period averaged 3.2 children per woman of childbearing age.

Box4: Health Indicators – Grenada (1998-2002)

INDICATORS	YEAR				
	1998	1999	2000	2001	2002
Estimated mid-interval population	100000	100703	101011	102632	102632
Estimated # women in 15-49 age group at mid-interval	2368	24457	25598	25598	25598
# Fetal deaths of 28 weeks or more gestation	37	25	25	28	34
Total births	1831	1787	1773	1839	1767
Live births	1794	1765	1748	1812	1733
Birth Rate (per 1,000 pop.)	18.0	17.5	17.5	17.9	16.9
Live births for females 15-49 yrs	1794	1765	1748	1805	1733
Fertility rate (live births per 1,000 females 15-49 yrs)	75.2	72.1	68.3	70.8	67.7
Deaths occurring during the year	797	763	721	738	896
Deaths Rate (per 1,000 pop.)	8.0	7.6	7.0	7.2	8.7
Still Birth	37	25	23	28	21
Still Birth Rate (per 1,000 total births)	20.2	14.0	13.0	15.2	11.9
Natural Increase	1034	1027	1061	1101	871
Natural Increase rate (per 1,000 pop.)	10.0	10.0	10.5	10.7	8.5
Infant Deaths	35	22	25	32	34
Infant Death Rate (per 1,000 live births)	19.5	12.5	14.3	17.6	19.6
Perinatal Deaths	44	30	26	42	42
Perinatal Death Rate (per 1,000 total births)	24.0	16.8	13.8	22.8	23.8
Neonatal Deaths	12	17	18	14	21
Neonatal Death Rate (per 1,000 live births)	6.7	9.6	10.3	7.7	12.1
Deaths in Children 1-4 yrs	10	3	1	4	3
Age Specific Death Rate in Children 1-4 yrs (per 1,000 pop.)	1.1	0.4	0.1	0.4	0.5
Maternal Deaths	2	0	0	0	0
Maternal Death Rate (per 1,000 live births)	1.1	0.0	0.0	0.0	0.0
Teenage Rate (Birth)	16%	15%	17%	18%	18%

When compared to other countries in the region, health status indicators of Grenadians were found to be in the mid-range (Box 5). This suggest that while Grenadians enjoy a reletively good health status, there is room for improvement.

Health Indicators in Selected Countries in the Eastern Caribbean

Countries	Death Rates		Infant Mortality Rate		Life Expectancy		Fertility Rate
	1984	1994	1984	1994	1985	1994	1990-1995
Grenada	7.7	6.8	13.8	20.0	-	70.0	3.9
St Vincent	6.7	5.0	26.5	19.0	-	71.0	2.0
St Kitts/Nevis	9.6	10.0	27.8	27.0	-	70.0	2.6
Barbados	8.0	9.1	18.4	16.0	73.9	75.6	1.8

Box 5: Health Indicator from Selected Countries in the Eastern Caribbean (PAHO – Caribbean Regional Health Study - 1996)

4.1 Mortality

Leading causes of death in Grenada from 1998 - 2002 were diseases of the circulatory system (including pulmonary circulation and other forms of heart disease, cerebrovascular disease); malignant neoplasms; diseases of the respiratory system; and certain infections and parasitic diseases (Box 6). This trend reflects a shift in the epidemiological disease pattern from communicable to chronic non-communicable diseases. Deaths as a result of accidents and injuries have doubled during this period and is second to deaths of the circulatory system which have increase four-fold from 1989-2002.

Major Causes of Death in Grenada – (1998-2002)

CAUSE OF DEATH	1998	1999	2000	2001	2002
Disease of the circulatory system	87	131	229	266	351
Malignant Neoplasm	148	104	105	104	128
Disease of the respiratory system	82	114	65	66	105
Certain infectious and parasitic Diseases	63	57	47	49	40
Disease of the Genitourinary system	31	30	30	21	45
Endocrine and metabolic Disease	41	24	27	77	40
Certain conditions originating in the perinatal period	33	21	25	21	33
Signs, symptoms and ill defined conditions	25	40	25	-	-
Injury Poisoning and Certain other Consequences of External Causes	24	20	31	40	51
Diseases of the Digestive System	37	24	24	37	34
Diseases of the Nervous system	-	-	-	22	20
TOTAL DEATHS	797	763	712	739	896

Box 6: Major causes of Death in Grenada – (1998-2002)

A further breakdown of the mortality data for 2000 showed that malignant neoplasm of the digestive organs was the most frequent neoplasm with 29 deaths followed by malignant neoplasm of prostate (27 deaths) and malignant neoplasm of Lymphoid and haematopoietic tissue (11 deaths). With regards to circulatory system, deaths from cerebrovascular diseases were the leading cause with 96 deaths followed by Ischemic heart diseases (55 deaths) and Hypertensive diseases (14 deaths). Diabetes, with 23 deaths, was the most frequent in the all other diseases group while suicide, with 13 deaths, was the main cause of death under External Causes.

4.2 Morbidity

Non-Communicable Diseases

Data from the Community Services indicate that diabetes mellitus, hypertensive disease, upper respiratory infections arthritis and injuries were the leading causes of morbidity reported by adults using these services in 2000. Of persons screened in 2000 by the district health services, 7.3% were diagnosed with diabetes mellitus (142/1953) and 7.1% with hypertension (230/3260). Most of the injuries seen occurred in the home (615 cases) while traffic injuries accounted for 87 cases.

Hospital discharge data provide additional morbidity information on the population of Grenada. Examination of the number of discharges by diseases among the major non-communicable diseases which also accounts for the high morbidity indicate that women were more affected than men (Box.7). It was noted that admissions to hospital were greatest in persons older than 45 years of age. Health workers also reported concern for the apparent high number of amputations. While no data was provided to support this claim, the concern expressed by hospital staff and community health workers was that poor management of chronic diseases was an issue that needed to be addressed in Grenada,

Hospital Discharge for Certain Non-Communicable Diseases – 2001-2004

Discharge by diagnosis	2001		2002		2003		2004	
	M	F	M	F	M	F	M	F
Total for all discharges	3710	5985	3588	5596	4152	6328	4494	6434
Hypertensive disease	162	302	147	239	136	256	191	249
Ischemic heart disease	37	48	22	30	37	37	58	41
Disease of pulmonary circulation & other heart diseases	82	92	92	97	84	76	143	133
Cerebrovascular diseases	43	67	56	80	50	64	77	89
Diabetes Mellitus	214	326	193	256	250	343	220	302

Box 7: Hospital discharge by diagnosis – 2001-2004

Communicable Diseases

A review of communicable diseases illustrated a decline in cases of tuberculosis from 1980 to 2004. During this period cases of tuberculosis declined from 17 cases in 1980 to 6 cases in 2004, while the figures for 2002, 2003, and 2004 were 1, 5, and 6 cases respectively.

After having had no cases of dengue fever in 1992 and an average of fewer than 10 in the following three years, there were 21 cases in 1996. There were 20 reported cases of dengue in 2003, down from 84 cases in 2002 while the figures for 1999, 2000 and 2001 were 3, 27 and 12 cases respectively. There were no dengue deaths in 2003

Sexually transmitted diseases seem to have progressed slowly in the population as illustrated by surveillance of hospital data and community services data. Health workers believe that this information may be underestimated, as most persons tend to seek a private physician to treat these diseases.

The cumulative total of reported HIV-infected persons stood at 197 at the mid-year 2005, with a male-to-female ratio of 2.5:1. Of this total, 6 were pediatric cases. In 2004, 14 new HIV-infected cases have been reported with 0 pediatric cases. This has been consistent since 1997 with no new pediatric cases from 1997-2005. As at mid-year 2005 the cumulative number of deaths from AIDS is 155; 113 males, 42 females. Cumulative pediatric deaths total 4, which no deaths since 1998.

The number of cases of syphilis reported by the Ministry of Health dropped from 127 in 1992 to 54 in 1996, a reduction of more than 57%. In 1996 there were 112 gonorrhea cases, more than double that of the previous year. Hospital discharge data for the period 2001- 2004 indicate a low number of cases of syphilis and other venereal diseases; 3 cases in 2004, 4 cases in 2003 (of which 2 were pediatric), 4 cases in 2002, and 3 cases in 2001 (of which 2 were pediatric). No data was available from this period from community health services .

4.3 Health of specific groups

Infants under 1 year of age

Between 1992 and 1995, there were 119 deaths in children under 1 year of age, with 48% of these deaths occurring within the first day of life. Neonatal mortality rate for 2002 was 12.1 per 1,000 live births with a three year (2000-2002) average of 10.0 per 1,000 live births. Analysis of mortality data for 2000 revealed that leading causes of neonatal deaths were congenital anomalies of the heart and circulatory system, hypoxia, birth asphyxia, other respiratory conditions, slow fetal malnutrition and immaturity.

The number of low birth weight babies decreased from 10% in 1996 to 8% of total births in 2000. In 1995, the Ministry of Health instituted a campaign to encourage more breast-feeding. A total of 1,154 infants were seen at age 3 months, and of these, 397, or 34.4%, had been solely breast-fed for the first three months of life. Between

1996 and 2000, a total of 5391 infants visited public clinics at age 3 months. Of those, 1,884 (34%) were exclusively breast-fed for the first three months.

Hospital discharge data for this group is provided in the following table (box 8).

Hospital Discharges for infants under 1year (2001-2004)

Discharges	2001	2002	2003	2004
Total discharges for all hospital diagnosis	9695	9184	10480	10928
Maternal conditions affecting fetus	486	529	599	609
Slow fetal growth	60	61	63	55
Hypoxia, birth asphyxia & other respiratory conditions	73	89	58	74
Hemolytic diseases of fetus	22	28	8	5
Other conditions originating in perinatal period	250	252	265	274
Sub-total of conditions affecting infants <1yr/ % of total discharges	981(9.2%)	959(10.4%)	985(9.4%)	1017(9.3%)

Box 8: Hospital Discharges for infants under 1year (2001-2004)

The hospital data for this age group show similar conditions as for the main causes of death. From 2001 to 2004, 9.2% to 10.4% of all discharges from hospital in Grenada were among infants less than one year old. Health workers raised concerns during interviews about the health of infants suggesting that further investigation was needed into the causes of health problems and issues in maternal and newborn health.

Children 1-4 years of age

From 1992-1995, there were 27 deaths among children aged 1–4 years old and for the period of 1997-1999, there were 17 deaths in this age group. The main causes of death in children 1-4 years of age were diseases of the nervous system, the respiratory system and the digestive system as the leading causes of death. In 2000, 1 child in this age group (1-4 years) died

Data on Notifiable Diseases reported by the Community Services 1997-2004 indicate that the main causes of childhood morbidity (1-4) years were acute respiratory infections, gastro-enteritis, and diarrhea. The main causes for morbidity in this age

group in 2004 as seen in community services were respiratory infections (818 cases), skin diseases (507 cases) and diarrhoea (116 cases).

During 1996 - 2000 between 1- 2% of children were found to be either underweight or overweight.

School Children (5-9 years of age)

In the age group 5–9 years old, 17 children died between 1996 and 1999 while there was no death in 2000.

The main causes for morbidity reported by community health services for children 5-19 years old in 2004 were upper respiratory tract infection (1303 cases), skin conditions (1210), and eye infections (177 cases). A similar pattern existed for 2003. In addition, 1929 and 2077 cases were reported for ill-defined conditions for 2004 and 2003 respectively.

Health of Adolescents (10-19yrs)

In 2000, there were 4 deaths in the 10-14 year age group and 9 deaths in the 15-19 year age group.

Tobacco use is relatively low reported at 26.9% of 13-15 years old who participated in the youth tobacco survey as ever having smoked with 8.3% being current smokers. However, 78% of these said they wanted to stop smoking.

Teen age pregnancy continues to be an issue of concern to health workers. Between 1992 and 1995, teenage pregnancies decreased by 9.7%, from 433 to 391 births, representing 18.3% and 17.1% of total births in those years. Between 1997 and 2000 the number of births to mothers under 15 years fluctuated between 10 (in 1997) and 36 (in 1998), was 24 in 2000. Births to teenage mothers decreased from 21% of all live births in 1997 to 17% in 2000. The figure for 1998 and 1999 were 13.4% and 15% respectively.

In the rationale for a National Policy on Health and Family Life Education, the document explained that in 1994, 17.2% (258) pregnancies were among adolescents (12-19 yrs). In that year 210 teenage admissions to hospital were for first pregnancies, 39 were for second and 9 were for third, this meant that 1/5 of teenage hospital admissions were repeaters and not new pregnancies. No data is available on abortions however anecdotal evidence suggests that this is a problem affecting the sexual and reproductive health of women and adolescents. A study conducted by Dr. Everold Hosein in a private clinic in 1994, suggest that for every 400 live births to teenagers, there are approximately 200 abortions.

Women

Health service for women in Grenada, like other countries in the Region, are specific to maternal and child health. Health workers have observed that many pregnant women visited private practitioners prior to attending the public prenatal facilities.

In 2003, 100% of births were provided by trained health personnel. There were no maternal deaths from 2001 to 2004. In 2004 the place and number of deliveries are provided in Box 9.

Number and place of deliveries - 2004

Place of Delivery	No of Deliveries
General hospital	1325 (74%)
Princess Alice Hospital	328 (18%)
Princess Royal Hospital	42 (2%)
Gouyave Maternity Unit	24 (1%)
Sauteurs Maternity Unit	32 (2%)
St David's maternity Unity	9 (.5%)
Home deliveries	13 (.7%)
St Augustine Medical Clinic	29 (2%)

Box 9: Number and place of deliveries - 2004

In 1999-2000, approximately 450 postnatal women requested family planning services in the district health services. The family planning options requested by women were condoms (25%), sterilization (7%) while the rest sought advice mainly regarding

intrauterine devices or injection. The Grenada Planned Parenthood Association provided family planning services to 1266 women in 1996, a decrease from 1729 in 1995.

In 2004, 427 pap tests were done for postnatal mothers first time after delivery, one (.2%) was found positive. In 2003, eight (1.6%) were tested positive. Other health screening for women is limited, there is screening at postnatal clinics for anaemia (230 postnatal mothers tested in 2004), at general health clinics (DMO clinics) there is also limited screening of blood sugar.

Obesity has been reported as a concern for women health, and in particular among mothers. The following numbers of antenatal mothers were reported as obese for the period 1999-2004 (Box 10). This concern is also a reflection of the higher proportion of women who have been hospitalised for chronic diseases from 2001-2004 (Box 7: Hospital Discharge for Certain Non-Communicable Diseases – 2001-2004).

Reported Cases of Obesity 1999 – 2004

YEAR	ANTENATAL MOTHERS
1999	15
2000	12
2001	23
2002	11
2003	17
2004	17

Box 10: Reported Cases of Obesity 1999 – 2004

Men

While there are no services targeted especially at men in Grenada. For the period (2001-2004) men account for higher utilisation than women of hospital services for accident and injuries resulting from work place injuries and road traffic accidents.

Elderly

There are 13 homes that care for the elderly (1 public and 12 private), and a nongovernmental organization also works specifically with this age group.

The older population is primarily affected by diabetes, hypertension, and coronary or cardiovascular diseases and their complications. This is illustrated by hospital utilisation in 2004: 248 (47%) cases of diabetes; 257 (73%) cases of hypertensive diseases; and 215 (57%) of coronary or cardiovascular diseases were among people older than 65 years of age.

For persons screened in the district health services over 1992–1995, between 8.5% and 14.1% were diagnosed with diabetes mellitus and between 10.5% and 11.7%, with hypertension.

4.4 Health Risks

The implication of the trends in morbidity and mortality is that the traditional factors such as affluence, ageing population and sedentary lifestyle may not be the only causal factors. Current research efforts at the Tropical Metabolism Research Unit, University of the West Indies suggest that the main concerns and cause of ill health and death in the Caribbean, including Grenada are related to:

- *Poor dietary habits,*
 - Illustrated by the prevalence of certain chronic diseases (diabetes and heart diseases).
 - There is no active monitoring of the prevalence of iodine or vitamin A deficiencies in Grenada
- *Poor diet before and after pregnancy,*
 - Resulting in measurement of Haemoglobin (HB) in blood. Staff in the maternal and child health program check the hemoglobin levels in infants to estimate the incidence of anemia in that population.
 -
- *Poor fetal development resulting in low birth weight,*
 - The proportion of low birth weight babies ranged between 8-10% of total births between 1996 and 2000. Low birth weight babies were 7.5% of the total births in 2002.
- *Early childhood malnutrition,*
 - Caribbean Food and Nutrition Institute (CFNI) data found that in 1998, 2.8% of children (0-5 years) suffered from under-nutrition in Grenada.
- *Poor chronic disease management*

(Illustrated by the prevalence of diabetes, hypertension and cardiovascular diseases in adult life, amputation rates, and chronic disease being the leading causes of death).

Other health risks which were found as note-worthy include:

Road Traffic Accidents

For the period 1992-2004 road traffic accidents have almost doubled in number. It is also noticed that men are more frequently involved in road traffic accidents. From 2001 to 2003 there were 6 deaths resulting from traffic accidents (Box 11).

Road Traffic Accidents 1992-2004

Year	Male	Female	Total Male/Female	Number died
1992	37	16	53	
1993	25	13	38	
1994	36	10	46	3
1995	20	14	34	
1996	26	10	36	
1997	17	7	24	
1999	36	8	44	
2000	31	16	47	
2001	33	9	42	1
2002	34	15	49	4
2003	68	20	88	1
2004	66	25	91	

Box 10: Road Traffic Accidents 1992-2004

Obesity

Obesity was identified by health workers as a health risk which was of concern and was seen as a major contribution factor to the high incidence of chronic non-communicable diseases among the adult population in Grenada. The numbers of people identified as being obese from community health services is provide in Box 11 for the years 1998 to 2004. It is anticipated that these figures are a small indication of a life style habits which affect the health of an individual.

Number of Obese adults seen in Community Health Services (1998-2004)

Year	Adults & Elderly
1998	74
1999	95
2000	118
2001	60
2003	72
2004	83

Box 11: Number of Obese adults seen in Community Health Services (1998-2004)

Accidents and injuries

Health Workers identified accidents and injuries as a common cause for people having to seek health care. For 2004, 54 traffic injuries and 730 home injuries were seen at Community Health Services, accounting for 7% of all clinic visits for the year.

In addition, hospital discharge data for 2001 to 2004 identify that males are more frequently admitted to hospital. Health workers explained that these accidents and injuries were because of either work related injuries or as a result of fighting (Box 12). Among total hospital discharges for males from 2001 – 2004, accidents and injuries have increased from 1.2% of total male discharges in 2001 to 4.8% of males discharges in 2004.

Hospital Discharges from accidents and injuries 2001-2004

Discharge by diagnosis	2001		2002		2003		2004	
	M	F	M	F	M	F	M	F
Total for all discharges	3710	5985	3588	5596	4152	6328	4494	6434
Accidental poisoning	17	12	15	11	18	7	25	18
Accidental falls	8	12	32	19	105	78	95	43
Accidents caused by fire arms	4	1	6	0	1	0	9	0
Homicides and injuries purposely inflicted	16	2	42	4	71	7	87	7
Sub-total of accidents and injuries	45	27	95	34	195	92	216	68
	1.2%	0.4%	2.6%	0.6%	4.6%	1.4%	4.8%	1.1%

Box 12: Hospital Discharges from accidents and injuries 2001-2004

Mental health

Mental health in Grenada was consistently identified as an area of concern among health workers. Information on the status of mental health and mental health services in the country is currently being conducted. Details of which are provided in a recent document produced by Dalhousie University, Canada.

Currently mental health services are provided mainly in two institutions, Mount Gay Hospital and Richmond home. In addition, the general hospital admits some patients for mental health conditions and health clinics in the community health services see patients with mental health problems. The review of mental health services in Grenada is being conducted with the hope of extending a better quality service and including care in the community.

Mental health conditions seen at the hospitals from 2001 to 2004 are provided in the following table:

Discharge by diagnosis	2001		2002		2003		2004	
	M	F	M	F	M	F	M	F
Total for all discharges	3710	5985	3588	5596	4152	6328	4494	6434
Mental disorders	106	42	110	50	128	60	114	54
Suicides & self inflicted injuries	3	7	3	9	2	13	5	5
Sub-total	109 2.9%	49 .08%	113 3.1%	59 1.1%	130 3.1%	73 1.2%	119 2.6%	59 0.9%

Box 13: Hospital discharges for mental conditions 2001-2004

Community psychiatric services reported that 2000 and 2206 visits were made in 2004 and 2003 respectively.

5.0 HEALTH SERVICES

Health services in Grenada is provide mainly through public health facilities however there is a growing move towards the use of private services because of the impression of a better quality of services at private clinics. Private services in Grenada are dominated by clinics which are operated by a single general practitioner or a specialist. There is one small clinic with beds, St Augustine Medical Clinic and the General Hospital has a private ward were patients pay the hospital for stay in the ward and

consultants charge an additional and separated fee to the patient. There are no NGOs providing in-patient care in Grenada however many NGOs participate in primary activities care. There is an eye clinic which is provided at the General Hospital through an NGO and there is a specialist who visits Grenada on Saturdays providing an oncology service.

Ministry of Health Organisational Arrangements

The Ministry of Health (MOH) is responsible for policy formulation, planning, programming, regulation, vital statistics, expenditure control, and health personnel matters. The Permanent Secretary (PS) is the administrative head and the Chief Medical Officer is the principal technical officer. There is a Policy Committee which meets regularly and deal with both operational and policy issues which affect the operation of the organisation. Current policies and plans are guided by the vision and mission of the Ministry of Health which are stated below.

The vision of the Ministry of Health is to improve the quality of life through improved health status thus ensuring that individuals, families and communities attain and maintain a state of optimum wellness.

The mission of the Ministry of Health is to promote and provide health care services that are appropriate, accessible, equitable and sustainable by utilizing suitably qualified and motivated staff committed to excellence and professionalism.

The Ministry of Health carries out its duties through the following key functional areas:

Administration

- General administration
- Registry
- Finance
- Personnel
- Planning Unit
- Health Information
- Epidemiology

- School of Nursing
- Procurement
- Births and Deaths

The Ministry of Finance controls all expenditures while the Department of Human Resource (DHR) makes all staffing decisions.

Acute care hospitals,

General Hospital, Princes Alice Hospital and Princess Royal Hospital.

The hospital facilities in the public health sector include the refurbished 240 bed General Hospital and two rural hospitals, the Princess Alice in St. Andrews with 56 beds and the Princess Royal in Carriacou with 40 beds. The General Hospital is a referral hospital offering 24 hour emergency care, specialist, surgical, pediatrics, psychiatric, ophthalmic, Obstetric/Gynecology, ENT, ultrasonography, electrocardiogram, and mammography. Support services include laboratory, pharmacy, imaging, physiotherapy and rehabilitative services. During 1996 - 2000, there were 43,575 admissions at the General Hospital, with an average length of stay of 6 days and a bed capacity of 56%. There is also a 20-bed psychiatric unit at the General Hospital, which is the entry point for persons seeking psychiatric care and support.

Mental Health,

- Mt Gay Hospital
- Richmond Home
- Carlton Home
- Community Mental Health
- Rathdune Psychiatric Unit

Community Services,

- Community Nursing
- Dental Department
- Pharmacy Department
- District Medical Officers
- Health Promotion

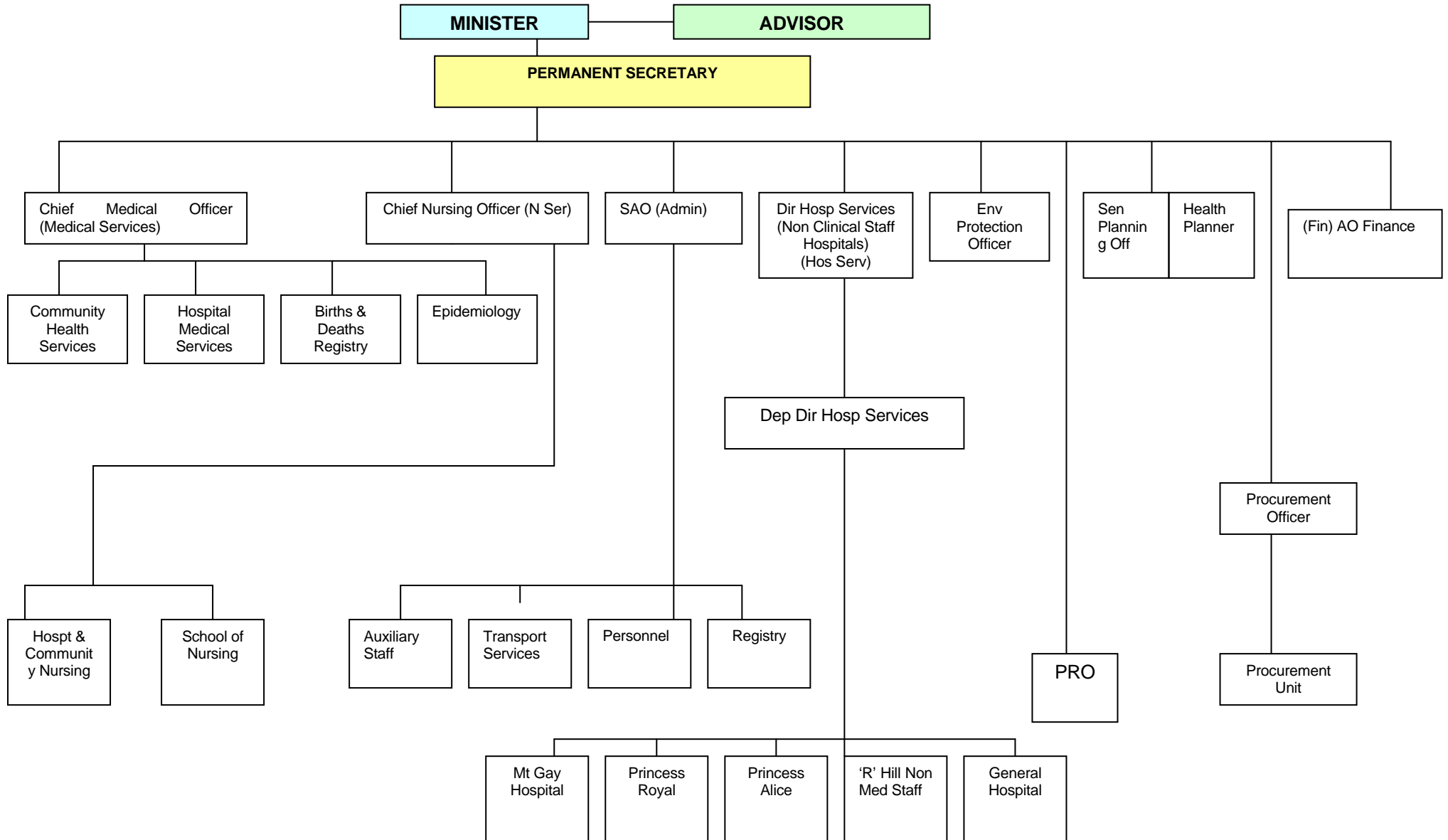
- National AIDS Programme

Environmental Health.

- Vector Control
- Food Hygiene
- Water Quality
- Occupational Health and Safety
- Port Health
- Rabies Control

There is also an officer responsible for the environment who reports to the Permanent Secretary.

MINISTRY OF HEALTH, SOCIAL SECURITY, THE ENVIRONMENT, AND ECCLESIASTICAL RELATIONS



Health Service Facilities in the Public Sector

Hospital facilities in the public health sector include the refurbished 240 bed General Hospital and two rural hospitals, the Princess Alice in St. Andrews with 56 beds and the Princess Royal in Carriacou with 40 beds. The General Hospital is a referral hospital offering 24 hour emergency care, specialist, surgical, pediatrics, psychiatric, ophthalmic, Obstetric/Gynecology, ENT, ultrasonography, electrocardiogram, and mammography. Support services include laboratory, pharmacy, imaging, physiotherapy and rehabilitative services. During 1996 - 2000, there were 43,575 admissions at the General Hospital, with an average length of stay of 6 days and a bed capacity of 56%. There is also a 20-bed psychiatric unit at the General Hospital, which is the entry point for persons seeking psychiatric care and support.

Health services were interrupted following hurricane Ivan in 2004. While some essential services have been restored there remain serious constraints to the provision of care in public facilities as a result of damage caused by the hurricane. The General Hospital suffered minor roof and window damage but remained operational with the same number of beds. The Princess Alice Hospital suffered severe roof and window damage as a result of Ivan. The Female Ward, Maternity, Paediatrics, Physiotherapy, Laboratory, Laundry, and Autoclave/ Sterilizing room lost all or part of their roof. 37 of the Hospital's 56 beds were lost. An outpatient service was being provided in the undamaged part of the building and beds were available for emergency admissions and maternity cases if required.

The Mount Gay Mental Hospital suffered minor roof and some window damage during the hurricane. Approximately 100 persons were accommodated at the institution.⁵

The Richmond Home for the Elderly was severely damaged with almost total roof loss from the main building and one person was killed when the roof collapsed. This is the only Government facility for the care of the elderly and other persons and cares for approximately 100 people.

An assessment of the condition and status of building and repairs of health facilities since hurricane Ivan by the Senior Planning Officer is as follows:

- Repairs scheduled to begin at Carlton House and Richmond home in September 2005
- A World Bank loan is being secured for work on Central Medical Stores, Princess Alice Hospital, Princess Royal Hospital and Vector Control Building.
- Repairs or reconstruction needs in doctor's quarters in St Johns and St David, no funds have been secured for this work.
- Health Centres –
 - St George's HC – good condition
 - St David HC – Repairs to be done
 - Grand Bras HC – good condition
 - Sauteurs HC – renovations required urgently
 - Gouyave HC – needs repairs
 - Hillsborough HC needs minor repairs
- Health Posts
 - Among the 30 health posts in the country, 14 were in good condition, 5 needed to be rebuild, 8 need repairs, 3 needed to be assessed for its condition.

6.0 RESOURCES FOR HEALTH

6.1 Financial Resources

Total public sector recurrent expenditure in 2000 was US\$ 98.9 million, an increase by US\$10.8 million over that of 1999. Similarly, Health expenditures increased to US\$ 12.5 million in 2000 from US\$ 10.6 million in 1999. In year 2000, health, education and housing and social services consumed 11%, 17% and 7% respectively of the total recurrent budget. For the year 2001, the allocations for health and education have increased to 16.2% and 12.3% respectively of the total recurrent expenditure. In 1998, per capita recurrent health expenditure was US\$ 118.27.

The health sector has consistently received approximately 12% of the annual Government recurrent budget, and public health recurrent expenditure is estimated to have represented between 4.5% to 3.5% of GDP over the 2000–2005 period (Box 14). The main hospital accounted for 40% of all health expenditures, and district health services—including community health services, environmental health, and dental department programs—accounted for approximately 26%. Wages and salaries in the sector accounted for approximately 70% of health expenditures on human resources.

Recurrent Expenditure – Government of Grenada/Ministry of Health (2000-2005) \$EC

Year	Total GoG expenditure	Ministry of Health - Expenditure
2000	255,776,268	29,300,716 (11.46%)
2001	308,383,216	34,928,595 (11.33%)
2002	323,983,011	38,616,462 (11.92)
2003	335,415,514	39,214,624 (11.69%)
2004	438,567,836	39,676,004 (9.05%)
2005	429,666,621	50,951,129 (11.86%)

Box14: Recurrent Expenditure – Government of Grenada/Ministry of Health (2000-2005) \$EC

The Ministry of Health collects revenue through user fees at the hospital for some diagnostic services and for the private ward/rooms in the hospitals. There is an exemption clause in the fee policy. Funds collected by the Ministry of Health go into the consolidated funds and not to the facilities that collects the fees. There are problems in fee collections as not all patients who are required to pay fees do pay. In addition, specialists who use private wards/room do not pay the hospital for using this facility.

Government of Grenada/Ministry of Health Revenue (2000-2005) \$EC

Year	Total GoG revenue (less grants)	Ministry of Health - revenue
2000	298,231,685	1,449,416 (0.5%)
2001	299,080,477	1,389,398 (0.5%)
2002	292,382,203	1,491,090 (0.5%)
2003	232,538,003	1,404,704 (0.6%)
2004	301,214,247	NA
2005	317,210,361	973,950 (0.3%)

Box 15: Government of Grenada/Ministry of Health Revenue (2000-2005) \$EC

6.2 Personnel

In 2002, the country has 8.1 physicians per 10,000 population which is the same ratio as in 1997.a Similarly, the ratio for nurses (19.5 per 10,000 population) and dentists (1.1 per 10,000 population) remained constant at 1997 levels. In 1998, there were 6.9 pharmacists and 0.75 nutritionist per 10, 000 population. There is a local school of pharmacy and nursing. The Ministry of Health, like other ministries is currently on a “zero growth” policy for the expansion of the number of staff employed through the Ministry of Health. The Ministry can however plan its human resource distribution with its allocation of staff.

The St. George's University School of Medicine (SGUSOM) offers an undergraduate program with majors in Basic Medical Science and Medical Technology. St. George's University School of Medicine provides annual scholarships to Grenadian nationals, but caters primarily to non-nationals. In 1997, Grenada was among four countries whose medical schools met eligibility criteria to participate in the United States of America's Federal Family Education Loan Program. In 1996, the school added a Faculty of Arts and Sciences, which offers undergraduate training in several disciplines, including pharmacy and nursing and physician's assistants. The University has a good working relationship with the Ministry of Health. University students current attend session at the general hospital. There are areas where the University could be much more involved especially in terms of assisting with public health surveys

A detail list of health personnel is provided on the next page:

PERSONNEL EMPLOYED IN HEALTH SERVICES (1997-2003) - Grenada

PERSONNEL	1997	POP. Per Personnel	1998	POP. Per Personnel	1999	POP. Per Personnel	2000	POP. Per Personnel	2001	POP. Per Personnel	2002	POP. Per Personnel	2003	POP. Per Personnel
Physicians	59	1671	59	1694	59	1694	58	1736	58	1769	58	1769	58	1769
Dentists	9	1095	9	11111	9	11111	9	11189	9	11403	9	11403	9	11403
Dental Auxiliaries	5	19720	5	20000	5	20000	5	20140	4	25658	4	25658	4	25658
Nurses	195	505	242	413	249	401	215	468	215	477	215	477	215	477
Nurse Practitioners	7	14085	6	16667	5	20000	5	20140	5	20526	5	20526	5	20526
Nurse Assistants	124	795	84	1190	140	714	146	689	146	703	146	703	146	703
Community Health Aides	45	2191	40	2500	45	2222	45	2237	45	2280	45	2280	45	2280
Social Workers	4	24650	4	25000	4	25000	4	25175	4	25658	4	25658	4	25658
Nutritionists/Dieticia n	1	98600	1	100000	1	100000	1	100703	1	102632	1	102632	1	102632
Lab Technicians	17	800	17	5582	17	11111	13	7746	13	7894	13	7894	13	7894
Radiographers	9	10955	9	11111	9	4545	7	14386	7	14661	7	14661	7	14661
Pharmacists	22	4481	22	4545	2	100000	22	4577	22	4577	22	4577	22	4577
Physiotherapist	-	-	-	-	-	-	1	100703	1	102632	1	102632	1	102632
Occupational Therapists	1	98600	1	100000	1	100000	1	100703	1	102632	1	102632	1	102632
Environmental Health Officers	15	6573	15	6667	15	6667	13	7746	15	6842	15	6842	15	6842
Hospital Administrators	3	32866	3	33333	3	33333	4	25175	4	25658	4	25658	4	25658

A number of issues have been identified for health personnel to improve the activities of the Ministry of Health. These include:

	Issue	Action/Decision	Person Responsible
1	<u>Administration</u>		
1.1	Creation of two additional posts of Administrative Officers with a trade off of two vacant Cemetery Keeper posts.	<ul style="list-style-type: none"> Job descriptions to be developed and submitted for each of the three Administrative Officers and the Senior Administrative Officer. Cemetery maintenance to be contracted out. 	Ministry of Health assisted by Department of Human Resources Ministry of Health
1.2	Creation of one additional post of Clerk/Typist	Fill the vacant position and find a position for trade off if there is still a need for an additional one. Ministry to take on board the suggestion that senior officers do more of their typing on computer thus reduce the reliance on Clerk/Typist.	Ministry of Health
1.3	Creation of one post of Clerk II		Ministry of Health
1.4	Conversion of post of Office Attendant/Cleaner Grade B to Binder for the Birth and Deaths Registry.	Provide justification for post and identify post to be trade off. <ul style="list-style-type: none"> Prepare justification for the post of Binder Prepare job description – check the similar posts in Supreme Court and Printery. Chauffer Assistants to start doing the assistant aspect of their job to cover the work of Ministry. Need for a general review of the Births & Deaths Unit. 	Ministry of Health
2	<u>Health Planning Unit</u>		
2.1	Upgrading of Clerk I Grade D to Planning Officer grade H	Submit justification and job description (short term) Submit a proposal for the restructuring of the Planning Unit with attending job descriptions (long term).	Ministry of Health Dave Duncan Health Planner/ Permanent Secretary.
3	<u>Epidemiology & Health Information</u>		
3.1	Change of nomenclature of the two Computer Operators to <ol style="list-style-type: none"> Secretary Grade D Assistant Health Information Officer Grade D 	<ul style="list-style-type: none"> Submit rationale and job descriptions to reflect new post titles. And give assurance that all the work previously done by Computer Operators would be accounted for by the new post titles. 	Ministry of Health
4	<u>School of Nursing</u> Transfer of School of Nursing from Ministry of Health to T.A. Marryshow Community College.	<ul style="list-style-type: none"> Cabinet approved since 2004 Move funds to T.A. Marryshow Community College by Special Warrant. 	Ministry of Health
5	<u>Hospital Services</u>	<ul style="list-style-type: none"> Already reflected in 2005 	

5.1	All Hospitals – General, Princess Alice, Princess Royal and Richmond Hill Institutions to be covered in one programme called Hospital Services.	<p>Estimates</p> <ul style="list-style-type: none"> Consider the saturation of Hospital Services and the implication for Mental Health as it was previously not included for saturation. The posts to be graded K and J respectively. Cabinet Submission to be prepared <p>Need to fully utilize the existing Secretary and Clerk/Typist before requesting another Secretary for Hospital Administration. Manage the existing staff.</p>	DHR Ministry of Health Human Resource Hospital Services
5.2	Grading of the posts of director of Hospital Services and Deputy Director of Hospital Services		
5.3	Request for additional Secretary for Medical Director		
6	<u>Maintenance</u> A proposal for the setting up of an adequate Maintenance Unit for Hospital Services is being prepared.	Present proposal with supporting justification to DHR	Ministry of Health
	Issue	Action/Decision	Person Responsible
7	<u>Community Health Services</u> Restructuring of Community Health Services to include: <ol style="list-style-type: none"> Director of Community Health Services Senior Medical Officer/Deputy Director Community Health Services Clerk/Typist 	<ol style="list-style-type: none"> Submit rationale for recommendation Submit job description for the post of Senior Medical Officer/Deputy Director of Community Health Services Need to find two positions for trade off for the two additional positions: <ol style="list-style-type: none"> Senior Medical Officer/Deputy Director of Community Health Services Clerk/Typist 	Ministry of Health
8	<u>Nursing</u>		
8.1	Change of nomenclature of Community Nurse Aide to Nursing Assistant. All are trained Nursing Assistants.	Send proper justification	Ministry of Health
8.2	Review Mental Health services. New approach to treating patients in the community rather than at hospital. Therefore there is a need to introduce trained psychiatric District Nurses into the Community Health programme.	Ministry to provide background document.	
8.3	Proposal to increase district posts by four with a corresponding reduction in Community Health workers.	Vacancies to be identified for trade off.	Ministry of Health
9	<u>Filling of Vacancies</u> <ul style="list-style-type: none"> Environmental Health Officer Environmental Health Assistant Customs Clerk II, 	Already being progressed, decisions to be sent soonest.	DHR

	Procurement <ul style="list-style-type: none"> • Medical Records Clerk • Clerk II Births & Death 		
10	<u>Job descriptions</u> Outstanding job descriptions from DHR <ul style="list-style-type: none"> • Quality Assurance Officer • Director & Deputy Director Hospital Services 	Being progressed, to be sent to Ministry of Health soonest.	DHR
11	Travelling for Community Health Workers	Sent to the Designated Travelling Officers Committee Decision to be communicated when it becomes available.	DHR
12	<u>Responsibility Allowances</u>	Cabinet Submissions to be prepared and decisions will be communicated as they become available.	DHR
13	Allowance for Petite Martinique Nurse	Cabinet Submission to be prepared and decision to be communicated as it becomes available	DHR
14	Housing allowance payable to Mr Michael Frame	Matter to be submitted to Ministry of Legal Affairs.	DHR