

**HEALTH SYSTEMS PROFILE OF THE
BRITISH VIRGIN ISLANDS**

(First Edition - November 2003)

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EXECUTIVE SUMMARY

The British Virgin Islands (BVI) is an overseas dependent territory of the United Kingdom. It is comprised of approximately 50 islands, cays and rocks, 15 of which are inhabited. The islands are located in the North-eastern Caribbean Sea, between 18° 20 North Latitude and 64° 30 West Longitude.

The total land mass of 59.3 square miles is spread over 1,330 square miles in the North-eastern Caribbean Sea. The 4 largest islands are – Tortola (21.5 square miles), Anegada (15.2 square miles), Virgin Gorda (8.5 square miles) and Jost Van Dyke (3.2 square miles). The topography of the BVI vary from extremely flat in Anegada to mountainous and rugged on Tortola, with the highest point, Mount Sage, being 1,780 feet above sea level.

The capital, Road Town, is located on Tortola. A fairly extensive network of roads provides access to all settlements in the BVI. At present, there is no government owned public transportation system in the territory, but private vehicle ownership is high and private services are readily available. Transportation to Tortola from Virgin Gorda and Jost Van Dyke is mostly by ferry, with the trip averaging 30 minutes; transportation from Anegada is by boat or air taxi.¹

The BVI is self-governed by a democratically elective Legislative Council. The government is comprised of an Executive Council consisting of a Chief Minister, the Attorney General, and 4 other ministers. The Governor and Deputy Governor of the BVI are appointed by Her Majesty, the Queen, and hold office during Her Majesty's pleasure. The Governor exercises reserve powers on behalf of the Crown and normally acts on the advice of the Executive Council, over which he presides. There are no local government structures; however, there are 3 District Officers with administrative functions for Virgin Gorda; Anegada and Jost Van Dyke.²

The government relies on locally generated revenues and loans for most of its recurrent and capital spending. It also receives small grants-in-aid from the British Government, mainly for internal security and foreign affairs, the areas covered by the Governor's reserve powers, and to support good governance.

The territory's economy is driven by tourism, which contributed 21.1% of GDP in 1999, and financial services, which contributed some 50.2% of the total government revenue in 1999. GDP at current price was US\$682.8 million in 2000.

Public health services are almost entirely financed by the government. In 2000, the total expenditure of the Ministry of Health and Welfare accounted for approximately US\$17.18 million (17%) of the total government expenditure, with Community Health Services accounting for US\$2.88 million (17%) of the Ministry of Health and Welfare expenditure and US\$6.6 million (38%) of users fees raised only 8% of the operating costs of primary and secondary health services. Ministry of Health and Welfare is the sole provider of health services in the public sector. The public health's overseas expenditure was US\$92,263 in 2000.

The BVI has one 44-bed public hospital, Peebles Hospital and one 8-bed private hospital, the Bougainvillea Clinic. Both are located in Road Town. Peebles Hospital offers inpatient, obstetrical and gynaecological, paediatrics, general surgery, ophthalmologic, psychiatric services and some neonatal intensive care services are also offered with basic support diagnostic services such as biomedical tests, x-ray and ultrasound.

The Ministry of Health and Welfare bears responsibility for the planning and development of both public and private health care services. Specifically, the Ministry's role in this regard is to formulate and coordinate policies relevant to planning and monitoring of the performance of health care providers. The Permanent Secretary is responsible for the administration of the Ministry and for supporting the Minister's policy role. The overall management of health services lies with the Director of Health Services. Currently, the Health Services are administered by the Health Department, which has two operational arms: Hospital Services and Community Health Services. These arms are headed by a Hospital General Manager and a Director of Primary Health Care respectively, to whom the day-to-day management is delegated.

With funding from the United Kingdom, the government undertook a Health Sector Adjustment Project from 1993 to 1996, with the aim of implementing a new management structure and process, revising planning approaches and systems, revising financing strategies, improving quality of care, and optimizing health outcomes. As a result of the project, a new management structure was agreed upon and partially implemented, and health sector studies on health information, health promotion, accident prevention, mental health, and environmental health were undertaken in order to provide local health managers a sound basis for planning. Continuing health reform efforts are concentrated on improved health care delivery through increased efficiency, effectiveness, and responsiveness.³

1 CONTEXT

1.1 POLITICAL CONTEXT

The British Virgin Islands are located north-east of USVI with the nearest island, St. John being three miles from Tortola, with geographic coordinates being 18.15 N and 64.30 W. As an overseas dependent territory of the United Kingdom, both the Governor and the Deputy Governor are appointed by Her Majesty the Queen and hold office during Her Majesty's pleasure.

The Governor is responsible, under the BVI constitution, for foreign affairs, defence, internal security and international financial services. The legal system is based upon the English Common Law. It is made up of the English Common Law and Statute Laws are passed by the Legislative Council of the BVI. The system is administered by the judiciary which is comprised of the Magistrate's Court, the High Court of Justice and the Court of Appeal and the final Appellate Court being the judicial committee of the Privy Counsel of England.

The BVI is self-governed by a democratically elected Legislative Council. The government is composed of an Executive Council consisting of a Chief Minister, the Attorney General, and four other ministers. The Governor exercises reserve powers on behalf of the Crown and normally acts on the advice of the Executive Council, over which he presides. There are no local government structures; however, there are three District Officers with administrative functions for Virgin Gorda, Jost Van Dyke, and Anegada.

The Ministry of Health and Welfare bears responsibility for the planning and development of public health care services and regulates the development of private health care services. Specifically, the Ministry's role in this regard is to formulate and coordinate policies relevant to planning and monitoring of the performance of health care providers. The Permanent Secretary is responsible for the administration of the Ministry and for supporting the Minister's policy role. The overall management of Health Services lies with the Director of Health Services, who is the chief technical advisor on health and health care issues. Currently, Health Services are administered by the Health Department, which has two operational arms: Hospital Services and the Community Health Services. These arms are headed by a Hospital General Manager and a Director of Primary Health Care, to whom the day-to-day management of health services is delegated.

Public Health Services are almost entirely financed by the government. In 2000, the total expenditure of the Ministry of Health and Welfare accounted for approximately US\$17.18 million representing 17% of the total government expenditure. Community Health Services accounted for some US\$2.88 million (17%) of the Ministry's expenditure and hospital services for some US\$6.6 million or (38%). The public health services' overseas medical expenditure was US\$92,263 in 2000. User fees generally raise only 8% of the operating costs of primary and secondary health care services. For example, government revenue from medical and dental fees was US\$895,000 in 2000. Like many countries, there are both social and political issues that influence the delivery of health services on the BVI including the public's perception of the health system, the aging process, cost-recovery process and weaknesses in the present constitution.⁶

1.2 ECONOMIC/CONTEXT

The US dollar is the legal tender in the territory and per capital income is quoted at approximately US\$34,000 for 2000 – the third highest in the Caribbean after Cayman and Bahamas. The average annual full time income is estimated at US\$18,950.00 (Source DPU).

The government relies on locally generated revenue and loans for most of its recurrent and capital spending. It also receives small grants-in-aid from the British Government, mainly for internal security and foreign affairs, the areas covered by the Governor's reserve powers, and to support good governance.

Sectoral Distribution of current GDP (%)	1993	1994	1995	1996	1997	1998	1999	2000
Agriculture, Hunting & Forestry	0.58	0.49	0.49	0.46	0.43	0.41	0.42	0.34
Fishing	1.70	1.12	1.36	1.33	1.25	1.34	1.35	1.33
Mining and Quarrying	0.24	0.19	0.23	0.24	0.24	0.26	0.26	0.27
Manufacturing	1.60	0.99	1.10	0.97	0.88	0.85	0.86	0.98
Electricity, Gas and Water	1.73	1.79	1.77	1.78	1.74	1.76	1.77	1.82
Construction	4.51	3.99	3.64	3.23	3.01	2.80	2.82	2.79
Wholesale and Retail Trade	33.58	22.40	25.56	23.94	21.82	20.94	21.05	20.26
Hotel and Restaurant	11.39	13.02	12.57	12.81	13.40	13.27	13.34	14.10
Transport and Communications	4.81	5.22	3.33	2.21	2.63	2.59	2.60	2.86
Financial Intermediation	14.14	30.75	28.73	32.91	35.58	36.46	36.12	35.97
Real Estate, Renting & Business Activity	15.38	13.28	13.34	12.69	12.15	12.12	12.18	12.08
Government Services	5.25	3.36	3.88	3.60	3.25	3.39	3.41	3.38
Education	1.69	1.40	1.51	1.49	1.43	1.48	1.49	1.50
Health and Social Work	1.37	1.03	1.01	0.89	0.79	0.76	0.76	0.72
Other Community, Social & Personal Services	2.01	1.11	1.43	1.35	1.23	1.33	1.34	1.29
Other Activities	3.32	3.03	2.79	2.54	2.32	2.20	2.21	2.12
Less Imputed Service Charges	(3.32)	(3.15)	(2.75)	(2.43)	(2.14)	(1.96)	(1.97)	(1.82)
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
GDP (at current market prices) US \$ 000	364,200	413,646	456,599	504,098	573,052	611,669	654,052	682,830
Annual rate of growth	5.68	13.58	10.38	10.40	13.68	6.74	6.93	4.40
GDP per Capita	20,817	23,105	24,928	26,904	29,992	31,397	32,926	33,713

The territory's economy is driven by tourism, which contributed 21.1% of GDP in 1999 (DPU), and financial services, which contributed some 50.2% of total government revenue in 1999 (2000 budget). Since 1996, several pieces of legislation have been passed to reduce money laundering, regulate the mutual funds sector, and govern general and limited partnerships. GDP at current prices was US\$511 million in 1996 and US\$682.8 million in 2000; the annual growth rate decreased from 10.4% to 4.4% over those years (see figures at end of chapter; DPU). The expansion of the Beef Island airport, the construction of a new bridge between Beef Island and Tortola, as well as housing construction, fuelled activity in the construction industry. Such activity has led to the importation of labour, mainly from other Eastern Caribbean countries. The unemployment rate averaged 3.6% from 1998 to 1999; unemployment was 3.8% among males and 3.4% among females.⁵

Selected Economic Indicators

INDICATOR	1993	1994	1995	1996	1997	1998	1999	2000
Per Capital GDP in Constant Price	20,187	23,105	24,926	26,904	29,992	31,397	32,926	33,713
Economically entire population in Thousands	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total public spending as % of GDP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Public spending on social programmes as a % of GDP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Annual rate of inflation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

1.3 DEMOGRAPHIC AND EPIDEMIOLOGICAL CONTEXT

The population of the BVI in 2000 was 20,254 with the population of <15 years old accounting for 28% of the total population and the female population (15-44 years old) being 25% of the total population. There were 10,429 males and 9,825 females, yielding a sex ratio of 1.06:1. Most of the population lives in Tortola (16,630), Virgin Gorda (3,063); Anegada (204); Jost Van Dyke (176). The large influx of immigrants has increased the working age population. Immigrants account for approximately 50% of the BVI population.

POPULATION BY ISLANDS FOR THE YEAR 1991 – 2000

Island	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Tortola	13,225	14,041	14,365	14,700	15,040	15,385	15,689	15,997	16,310	16,630
Virgin Gorda	2,437	2,586	2,646	2,707	2,770	2,833	2,889	2,946	3,004	3,063
Anegada	162	172	176	180	184	188	192	196	200	204
Jost Van Dyke	140	149	152	156	159	163	166	169	173	176
Other Islands	61	65	66	68	69	71	72	74	75	77
Yachts	83	88	90	92	94	96	98	100	102	104
Total	16,108	17,100	17,495	17,903	18,317	18,737	19,107	19,482	19,864	20,253

Source: Development Planning Unit

The dependency ratio in 2000 was 0.46. The life expectancy rate at birth of the population in 2000 was 72.2 for males and 77.8 for females.⁶

Major causes of hospitalization in 2000 (Source: Peebles Hospital Medical Records)

1. Respiratory Infections
2. Hypertension
3. Cardiovascular diseases
4. Diabetes Mellitus
5. Conditions related to pregnancy
6. Mental disorders
7. Acute Diarrhoeal diseases
8. Trauma/orthopaedic related conditions
9. Allergic conditions such as fish poisoning
10. Ill-defined conditions

FOUR LEADING CAUSES OF DEATH AGE 0 –5 (2000)

No.	Cause of Death	Sex		Age Group				Total
		M	F	0-7 dys	8-31 dys	1-11 mth	1-4 yrs	
1	Still Birth	2	1					3
2	Meconium Aspiration	-	2					2
3	Sickle Cell Disease	-	1					1
4	Nasal Atresia	1	-					1
Overall Totals		3	4					7

During 1996-2000, the crude birth rate averaged 16% per 1,000 population, and the total fertility rate averaged 1.9 children per woman. Life expectancy at birth over the period 1996-1999 averaged 74.5 years with 72.2 years for males, and 77.8 females.

Chronic non-communicable diseases, mainly diabetes and hypertension, contribute significantly to morbidity and mortality in adults, including the elderly. In 2000, there were 64 patients with diabetes and 30 with hypertension admitted to the hospital.⁷

THE LEADING CAUSE OF DEATH, 2000

NO.	CAUSE OF DEATH	SEX		AGE GROUP				TOTAL
		M	F	20-24	25-44	45-64	65+	
1	Malignant Neoplasm							22
2	Hypertension	4	5	-	-	1	8	9
3	Coronary Atherosclerosis	5	1	-	-	2	4	6
4	Ischemic Heart Disease	4	1	-	1	-	4	5
5	Drowning	4	1	-	2	2	1	5
6	Sepsis	4	-	-	-	-	4	4
7	Congestive Heart Disease	3	1	-	-	1	3	4
8	Diabetes Mellitus	1	2	-	-	1	2	3
9	Atherosclerotic	2	1	-	-	-	3	3
10	* Cancer of the Breast	-	3	-	1	-	1	3
OVERALL TOTALS		37	15					

Source: Peebles Hospital Records

* Age was not recorded for one of the patients with this diagnosis

DEATHS BY CANCER 2000

TYPE OF CANCER	SEX		AGE GROUP				TOTAL
	M	F	1-4	25-44	45-64	65+	
Adenocarcinoma	-	1	-	1	-	-	1
Bowel	-	1	-	-	-	1	1
Breast	-	3	-	2	-	1	3
Colon	1	-	-	-	-	1	1
Kidney	-	1	-	-	-	1	1
Non Hodgkin's Lymphoma	1	-	-	-	-	1	1
Oesophagus	1	-	-	-	1	-	1
Pancreas	1	-	-	-	-	1	
Prostate	10	-	-	-	1	9	10
Stomach	1	1	-	-	-	2	2
TOTAL	15	7	-	3	2	17	22

SOURCE: Medical Records Statistical Unit

Obesity, particularly among women and children, is cited as one of the major health problems facing the BVI. This is related to lack of physical activity and over consumption of processed or refined foods. Most of the food eaten in the BVI is imported. By the end of 2000, 30 cases of HIV/AIDS (20 males; 10 females) had been reported in the BVI since 1997. There were a total of 22 deaths due to AIDS in the territory by the end of 2000 (15 males; 7 females).⁸

VITAL STATISTICS	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Crude Birth Rate	18.13	16.96	18.18	16.65	15.67	15.31	18.37	14.27	15.86	16.24
Total Fertility Rate	1.81	1.81	1.97	1.83	1.79	1.77	2.2	1.74	1.96	2.07
Crude Death Rate	4.61	5.26	4.34	5.86	4.91	4.7	5.08	4.47	4.75	4.49
Maternal Mortality Rate	0	0	31.45	34.13	0	0	0	0	0	0
Infant Mortality Rate	23.1	13.79	15.72	17.06	3.48	13.94	5.7	17.99	15.87	-

Source: Development Planning Unit (DPU)

Dengue is the most important vector borne disease in the BVI. There were 7 cases of dengue fever diagnosed in the year 2001; none was admitted to the hospital. The Vector Control Unit of Environmental Health Division is responsible for the control of Aedes Aegypti Mosquito. The house index for Aedes Aegypti ranged from 2.10% to 3.36% during 1999, compared to 3.18% to 4.02% in 1998. For 2000, it was 1.15% to 2.11%.⁹

1.4 SOCIAL CONTEXT

According to the 2000 census, the total population of the BVI was 20,254. Persons under 15 years of age accounted for 27% of the population, persons aged 15-64 years for 67%, and persons >65 years of age and older for 5%.

The major ethnic group in the islands is black. Immigrants accounted for approximately half the population. The unemployment rate averaged 3.6% from 1998 to 1999; unemployment was 3.8% among males and 3.4% among females. Literacy levels continue to be high, at approximately 98.3% for females and 97.8% for males.

School attendance is compulsory up to age 15. The average length of school attendance is 9.4 years, though most students complete a total of 12 years (primary and secondary). There are 20 primary schools (12 public and 8 private) in the territory, and 5 secondary schools (4 public and 1 private). Adult literacy rates in 1998-2000 were 98.3% for females and 97.8% for males.

2 THE HEALTH SYSTEM

2.1 GENERAL ORGANIZATION

It is the policy of the British Virgin Islands Government to provide comprehensive health care, with special focus on women, children, the elderly, the mentally ill, indigent and the handicapped. A strong emphasis is placed on health promotion, and the government's goal is to expand the integration of health promotion beyond the activities and policies of the health sector to all government planning processes and policies, particularly those that have an impact on health, such as education, employment, housing, transportation and environmental resource management.

Public Sector – The BVI does not have a formal health plan, though annual planning exercises are conducted. The government's health priorities are the enhancement of

hospital services, the strengthening of public primary health care services, and the improvement of environment health including solid waste management.

The Ministry of Health and Welfare is responsible for providing public health and social services, as well as for monitoring and regulating private sector providers. The Minister, in consultation with the Permanent Secretary and the Director of Health Services, makes policy decisions. The Permanent Secretary is responsible for the administration of the Ministry headquarters and for supporting the Minister in his/her policy role. The Director of Health Services is charged with the day-to-day management and planning of health services.

The Public Health Department is responsible for managing government health services. The department is organized into community services (primary care) and hospital services (secondary care) each headed by a senior manager who reports to the Director of Health Services.

In accordance with the 1976 Public Health Act, which provides the statutory framework for protecting and promoting the population's health, government health services are provided free at the point of service to certain groups including full-time schoolchildren, nursing mothers, the elderly, the mentally ill, health workers, fire fighters, the police, prisoners, and prison officers.

Patients requiring diagnostic and treatment services beyond the scope of Peebles Hospital are referred to Puerto Rico, Jamaica, Barbados, the United States, US Virgin Islands, and the United Kingdom.

Private Sector - The territory has a vigorous private health sector, encompassing both inpatient and ambulatory care. There is one private hospital (Bougainvillea Clinic), which specializes in plastic surgery, two private dental surgeries, and three private medical complexes, all located in Road Town. There are 15 physicians practicing in the private sector.

Many residents access services through the private sector and care abroad, mainly in the US Virgin Islands or Puerto Rico, either by choice or because they require specialized care unavailable locally.

A compulsory social security scheme covers all paid employees, with employees and employers contributing equally to the premiums; some persons are covered 100% by the government. Self-employed workers are also required to participate in the plan. The social security scheme includes maternity, occupational injury, unemployment, old-age pension, sickness, and survivor's benefits, as well as a funeral grant.

Discussion on the development and implementation of a National Health Insurance scheme is ongoing.

The new Medical Act, passed in 2000, provides for the registration of medical, dental, allied health practitioners and pharmacists. It also makes provisions for the establishment

of a Medical and Dental Council, as well as an Allied Health Professionals Council, in order to enhance and enforce standards for these professional practices. The Nursing Act of 1976 provides for the certification of nursing professionals.¹¹

The Ministry of Health has the mandate to regulate private sector practice, registration, and licensing, but does not have effective mechanisms in place to do so.

2.2 SYSTEMS RESOURCES

Human Resources: There are a total of 35 physicians registered to practice in the BVI. Of these, 20 physicians work in the public sector and 15 in the private sector. To practice medicine in the BVI, one needs to be registered with the BVI Medical and Dental Council. All non-nationals coming to the territory to work require a work permit.

There are about 112 Registered Nurses employed in the public sector; 28 of these work in Community Health Services and 84 at Peebles Hospital.

The Director of Health Services and Director of Primary Health Care are both medical doctors.

HUMAN RESOURCES IN THE HEALTH SECTOR

TYPE OF RESOURCES	1993	1994	1995	1996	1997	1998	1999	2000
Ratio of physicians per 10,000 population	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ratio of professional nurses per 10,000 population	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ratio of dentists per 10,000 population	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ratio of pharmacists per 10,000 population	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ratio of mid level laboratory per 10,000 population	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ratio of radiologists per 10,000 population	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
No. of Public Health Graduates	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: Peebles Hospital Records

PEEBLES HOSPITAL (2000)

SPECIALIST	NUMBER
General Surgeons	2
Anaesthesiologists	2
Paediatricians	2
Internists	1
Obstetrician/Gynaecologists	1
Psychiatrists	1
General Practitioners	7
TOTAL	20

Source: Peebles Hospital Records

HUMAN RESOURCES IN PUBLIC INSTITUTIONS, 2000

INSTITUTIONS	CATEGORY OF WORKER	NUMBER
I. Peebles Hospital	Physicians	20
	Nurses	84
	Laboratory Technicians/Technologist	6
	Radiographer/Imaging Technologist	5
	Pharmacist	5 (3 private / 2 pharmacists)
	Administration	
	Physiotherapist	3
II. Community Health Services	Physicians	6
	Nurses	28
	Dentists	1
	Environmental Health	7
	Mental Health Officers	3
	Psychiatrist	1
	Health Education	3 (1 Comm. Specialist / 1 Researcher)
	Nutrition	2
	Audiology	1
	Psychologist	1

Source: Peebles Hospital Records

PEEBLES HOSPITAL (2000)

Total number of beds	44
Beds per 1,000 population	2.2
Total number of admissions	2,206
Total number of discharges	2,214
Patient days	10,063
Average length of stay	4
Occupancy % bed rate	63%
Average daily census	28

Source: Peebles Hospital Records

Drugs and other health products: The Peebles Hospital is the purchasing agent for public health services. There are privately owned pharmacies in Tortola and Virgin Gorda. The BVI is a member of the Eastern Caribbean Pharmaceutical Procurement Services (PPS) through which drugs are purchased. The formulary is revised every two years. The Medical Act requires that a registered Pharmacist be present at both private and public pharmacies.

The Peebles Hospital Pharmacy supplies the district health centers (primary care units). Certain standardized treatment protocols for conditions such as asthma, eclampsia, hypertension and gastroenteritis are available.

At the Accidents and Emergency Unit, protocols are available for the administration of tetanus, toxoid, fish poisoning and febrile convulsions. A number of protocols are in the process of formulation.

The national blood bank service is located at the Peebles Hospital laboratory. The total number of blood donations for the year 2000 was 396 as compared to 285 in 1999 and 280 in 2001. All blood for transfusion is screened for HIV, Hepatitis B and syphilis. There is

no remuneration offered for blood donations. All donations are collected on a voluntary basis. The laboratory uses the Caribbean Regional Standards for blood banking.

Blood Donation, 1990 – 2000

Peebles Hospital

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
No. of Donors	N/A	N/A	N/A	367	401	255	193	150	220	277	311

Source: Peebles Hospital Laboratory Services

There is no local production of drugs, vaccines or medical equipment. The Peebles Hospital Pharmacy is the central purchasing agency for public health services. Drugs are purchased through the Eastern Caribbean Drug Services (ECDS), and then the clinics requisition the drugs from the hospital pharmacy as needed. Narcotics are not available at district clinics. Some drugs not included in the ECDS formulary are purchased directly from private suppliers. Private sector practitioners arrange their own drug purchases. A certificate from the Director of Health Services and the Senior Pharmacist is required to import narcotics into the BVI; all other drugs used in the private sector are purchased independently and are not regulated by the government.

Vaccines are purchased through PAHO Revolving Fund. When urgently needed, some vaccines are purchased through a vendor in Barbados. Some vaccines are provided at no cost to the private sector practitioners. A limited number of vaccines are ordered directly by the private sector.

INDICATOR	YEARS							
Total number of registered pharmaceutical products	1993	1994	1995	1996	1997	1998	1999	2000
% of Brand drugs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
% of Generic drugs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total spending on drugs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
% of public spending on health allocated for drugs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
% of expenditure executed by the Ministry of Health for drugs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: Peebles Hospital Pharmacy Services

Table of Prescriptions Dispensed from 1993 - 2000

YEAR	NUMBER OF PRESCRIPTIONS
1993	9,866
1994	9,914
1995	11,517
1996	13,450
1997	16,613
1998	18,363
1999	19,114
2000	22,257

Total number dispensed 1993 - 2000	73,864
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Equipment and Technology: Most of the equipment which includes laboratory, x-ray, ultrasound and dialysis are located at the government run hospital. CT scans and mammogram are available at private run institutions. Private laboratories, high technology units and equipment are available in the private sector. There is no medical Biomedical Technician on staff responsible for preventative maintenance and repair of medical equipment. The maintenance staff at Peebles Hospital has had biomedical technology training with the suppliers and also by a Cuban Biomedical Engineer facilitated by PAHO/WHO.

AVAILABILITY OF EQUIPMENT IN THE PUBLIC SECTOR, YEAR 2002

SUBSECTOR	Beds Available per 1,000 pop.	Basic diagnostic imaging equipment			Clinical Laboratories per 1000,000 pop.	Blood Banks per 100,000 pop.
		X-ray	Ultrasound	CT Scan		
Public Sector	44	1	1	-	1	1
Private Sector	8	1	1	1	1	-
Total	52	2	2	1	2	1

Source: Hospital Services

AVAILABILITY OF EQUIPMENT IN THE HEALTH SECTOR, YEAR 2000

SUBSECTOR	DELIVERY ROOM		CLINICAL LABORATORY		DIAGNOSTIC IMAGING	
	1 st Level	2 nd Level	1 st Level	2 nd Level	1 st Level	2 nd Level
Public Sector		1		1		1
Private Sector		-		1		1
Total		1		2		2

Source: Hospital Services

2.3 FUNCTIONS OF THE HEALTH SYSTEM

Steering Role: The Ministry of Health and Welfare is responsible for providing public health and social services, as well as for monitoring and regulating private sector providers. The Minister, in consultation with the Permanent Secretary and the Director of Health Services, makes policy decisions. The Permanent Secretary is responsible for the administration of the Ministry headquarters and for supporting the Minister in his policy role. The Director of Health Services is charged with the day-to-day management and planning of health services. The Public Health Department is responsible for managing government health services. The Department is organized into community services (primary care) and hospital services (secondary care) departments, each headed by a senior manager who reports to the Director of Health Services.¹²

Financing and Expenditure: The Health Department/Ministry of Health is responsible for exercising supervision and control of financing of the sector.

HEALTH SECTOR FINANCING

	1993	1994	1995	1996	1997	1998	1999	2000
Per capita public expenditure on health in USD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Public expenditure on health / Total public expenditure	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total per capita on health as % of GDP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
External health Dept / Total external Dept.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total per capital/ Health expenditure in USD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: Ministry of Finance

Public health services are almost entirely financed by the government. In 1996, the total expenditure of the Ministry of Health and Welfare accounted for approximately US\$12.46 million (12%) of total government expenditure. Community (primary level) services accounted for slightly more than US\$2 million (16%) of the Ministry of Health and Welfare's expenditure, and hospital (secondary level) services accounted for some US\$4.4 million (35%). (1996 figures from the 1998 budget) By 2000, the total Ministry of Health and Welfare expenditure was an estimated US\$17.18 million, or approximately 17% of total government expenditure, some US\$99 million.

Community Services accounted for approximately US\$2.88 million (17%) of the Ministry's expenditure, and hospital services for some US\$6.6 million (38%). The public health services' overseas medical expenditure was US\$92,263 in 2000. Data on expenditure on private sector health services are unavailable.

User fees generally recover only 8% of the operating cost of primary and secondary health care services. For example, government revenue from medical and dental fees were US\$895,000 in 2000.

ACTUAL EXPENDITURE FOR A 10 YEAR PERIOD

SOCIAL SERVICES

Ministry Dept	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Social Sector	3,794,530	4,619,023	4,705,735	7,128,626	7,923,553	8,821,806	6,254,841	1,2185,717	1,3505,484	14,502,725
Ministry of Health and Welfare/ ADH	1,782,742	2,197,509	2,033,596	403,541	880,982	1,395,972	1,255,139	1,234,164	1,393,264	1,367,770
Health: Community Services Hospital Services Solid Waste	4,849,626	4,113,695	5,410,235	5,893,172	7,094,411	6,237,328	8,549,266	9,530,955	8,304,818	11,460,571
Health Total	6,632,368	6,311,204	7,443,831	6,296,713	7,975,393	7,633,300	9,804,405	10,765,119	9,698,082	12,828,341
Overall Social Sectors	9,426,898	10,930,227	12,149,566	13,425,339	15,898,946	15,898,946	16,059,246	22,950,836	23,203,566	27,331,066

Total										
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Health Insurance: The Government of the British Virgin Islands is committed to providing the best possible care to all its citizens. There is no Social Health Insurance Scheme at present.

A compulsory social security scheme covers all paid employees, with employees and employers contributing equally to the premiums; some persons are covered 100% by the government. Self-employed workers are also required to participate in the plan. The social security scheme includes maternity, occupational injury, unemployment, old-age pension, sickness, and survivor's benefits, as well as a funeral grant.

Discussion on the development and implementation of a National Health Insurance Scheme is ongoing.

2.4 **SERVICE DELIVERY**

Primary Care Level: The Health Department has instituted a zoning system to facilitate efficient and effective deployment of resources to the various communities of the BVI. The zones are as follows: Zone 1 (Eastern Tortola); Zone 2 (Central Tortola), Zone 3 (Western Tortola); Zone 4 (Virgin Gorda) and Zone 5 (Anegada).

Public sector primary care services are offered at the district health clinics. There are a total of 12 health clinics and health posts in the BVI (10 clinics and 2 health posts) – the Road Town Health Centre and 7 other clinics on Tortola, two on Virgin Gorda, and one each on Jost Van Dyke and Anegada. The Road Town Health Centre serves as a referral point for the district clinics. The clinic in The Valley, on Virgin Gorda, is staffed by two physicians and the clinic at North Sound is staffed by a resident nurse who is supported by the Valley clinic physicians. The clinic on Jost Van Dyke is staffed by a nurse practitioner and the clinic on Anegada by a public health nurse. Both clinics are visited regularly by a physician. The clinics on Tortola and Virgin Gorda are adequately staffed and function well; the other clinics are understaffed.

Catchment populations usually fluctuate as they are augmented by the presence of tourists and temporary residents, such as yacht dwellers, who may also receive care through public health services.

District clinics provide a full range of child health services, including growth and nutritional monitoring, development assessment, treatment of common illnesses, counselling, school health, and screening for anaemia, including sickle cell anaemia. At Road Town Clinic – Food Handlers and Immigration Clinics are held.¹³

Service Production: Community Health Services, 2000

YEAR	1995	1996	1997	1998	1999	2000
Total No. of Patients Seen	N/A	22,756	15,232	15,985	20,350	31,241

Five Leading Causes of Consultation at District Clinics, 2000

1. Respiratory Infections
2. Hypertension
3. Cardiovascular diseases
4. Diabetes Mellitus
5. Pregnancy related conditions

The Health Education Department delivers programmes that focus on the promotion of health and wellness and emphasize behaviour modification and life style changes, targeting primary and secondary school children, young adults and community groups. Programmes in management of both communicable (vaccine preventable diseases MMR; TB; Tetanus, Polio, vector borne diseases e.g. malaria, dengue, respiratory infections, gastroenteritis, STDs and non-communicable diseases (e.g. diabetes, HTA, Cancers) are available through the Community Health Services and Peebles Hospital.

Hypertension and Diabetes clinics are conducted on Tortola at the Road Town, Iris Smith-Penn (East End), Cappaons Bay and on Virgin Gorda at North Sound and Iris O'Neal Clinics.

The BVI's Expanded Programme for Immunization (EPI) is a component of the Maternal and Child Health Programme. Under the EPI, children under the age of one year receive BCG, hepatitis B, DPT, Hib, OPV vaccines; at one year of age, children receive MMR vaccine, DPT Polio, and MMR booster shots are given according to the immunization schedule until 11 years of age. The Hepatitis B and Hib vaccines were added to the immunization programme in 1999, and the pentavalent vaccine, which provides coverage for diphtheria, pertussis, tetanus, hepatitis B and Meningitis, was added in 2000.¹⁴

IMMUNIZATION SCHEDULE

Birth to 4 months	BCG, Hepatitis B #1
2 months	DPT/Hib/Hep B & OPV
4 months	DPT/Hib & OPV
6 months	DPT & Hib & Hep B & OPV
12 months	MMR
18 months	DPT & Polio, 1 st Booster
3 to 4 years	DPT, Polio, MMR, 2 nd Booster
9 to 11 years	DT, Polio, 3 rd Booster

Source: Community Health Services

Coverage of EPI of Children under 1 year of age – Year 2000

Immunization Programme	Coverage
BCG	100%
Polio	100%
DPT	100%
Measles and MMR	100%

Source: Community Health Services Records

No cases or deaths of neonatal tetanus were recorded in 2000.

Adina Donovan – A senior citizens home offers care and protection to the elderly and destitute.

Prenatal coverage has been 99% over the past 5 years. All deliveries are performed at Peebles Hospital. The Environmental Health Division is responsible for food hygiene, vector control, water quality surveillance, institutional hygiene, and investigation of complaints such as septic tank problems, rodents, and abandoned vehicles.

The Government Dental Services provide oral health services to the population. The only dentist visits Virgin Gorda and Anegada where services are provided one day per week and one day per month respectively. The Dental Service Unit monitors primary school fluoridation and dental health programmes. The dental officer treats adults in private clinics part-time on a split-fee basis with the Ministry. There is one government dentist.

Service Production: Dental Services – Community Health Services

	1993	1994	1995	1996	1997	1998	1999	2000
Extractions	246	208	268	299	309	330	379	320
Restorations	1100	1493	1194	1612	1695	1715	1669	1527

Source: Dental Unit, Community Health Services

The Community Mental Health Centre, located in Road Town, provides mental health ambulatory care for the territory through its outreach psychiatric services. The centre is directed by a psychiatrist, who also manages the inpatient care of psychiatric clients at Peebles Hospital. At the end of 1999, 236 clients were enrolled at the centre. The Mental Health Service's approach emphasizes treating individuals in their community, including monitoring and administering medication, providing family counselling, and promoting self-care. Mental Health Centre staff visit the hospital, the prison, and the geriatric home as necessary. Mental health officers also travel on a regular basis to clinics on Tortola, Virgin Gorda, Jost Van Dyke, and Anegada to follow-up with patients. Psychotic patients are admitted to the medical ward of Peebles Hospital, an arrangement that is less than satisfactory from a clinical point of view. There are only two secured rooms on the medical ward and non-disruptive patients are admitted to the general medical ward. There are no psychiatric nurses on staff and quarters are cramped. Many of those who come in contact with the penal system, often for minor offences, wind up in prison and are treated there by a mental health nurse.¹⁵

Mental Health Unit: Service Production – Community Health Services

YEARS	1990	1991	1992	1993	1994	1995	1996	1998	1999	2000
No. of clinics	52	52	48	51	52	56	56	-	N/R	N/R
Total No. of Nursing contacts	1291	1683	1163	1001	1566	989	1051	1106	1088	1434
No. of new patients	34	28	53	11	17	21	8	5	84	160
No. of active clients								152	236	396
No. of Hospital Admissions	22	56	48	26	32	39	48	86	61	99
No. of home visits	587	891	570	552	1103	595	396	393	320	245
No. of psychological contacts	108	91	107	78	None	None	88		750	903
No. of psychiatric contacts	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1085

Source: Mental Health Unit, Community Health Services

Secondary Care Level: Secondary health care is delivered at Peebles Hospital. This is a 44 bed hospital which offers services including inpatient, surgical, maternity, paediatrics, medical and continuous nursing services as well. In addition, an organized Accidents and Emergency Department offers scheduled outpatient services. A 4 bed unit (renal dialysis unit) was opened in May 2000 and provides treatment for patients with end stage renal disease. A nephrologist visits from St. Thomas on a weekly basis. In 2000, a total of 724 treatments were given to 55 patients. Hospital deaths, both for infants and adults, are autopsied on request of the Director of Health Services if there is a medical-legal issue such as unexplained sudden death, suspicious death, or if foul play is suspected. Normally, a pathologist will visit from Puerto Rico. There is no problem with waiting lists for elective surgery.

SERVICE PRODUCTION, PEEBLES HOSPITAL, 2000

INDICATORS	
Total number of Admissions	2206
Total number of discharges	2214
Bed Occupancy rate	63%
Average days of stay	4

Source: Hospital Medical Records

Patients requiring diagnostic and treatment services beyond the scope of Peebles Hospital are referred to Puerto Rico, Jamaica, Barbados, USA, US Virgin Islands and the United Kingdom. There are 6 Specialists and 7 General Medical Practitioners working at Peebles Hospital.

**SERVICE PRODUCTION: IMAGING DEPARTMENT; PEEBLES HOSPITAL
NUMBER OF EXAMINATION PERFORMED**

Type of Examination	1995	1996	1997	1998	1999	2000
X-rays	3051	4312	4535	4541	5635	4121
Ultrasounds	326	887	1023	974	1661	1563
Mammograms	0	0	0	21	0	35

Source: Imaging Department, Peebles Hospital

SERVICE PRODUCTION: LABORATORY SERVICES, PEEBLES HOSPITAL - 2000

YEAR	1995	1996	1997	1998	1999	2000
Total No. of investigations done	N/A	N/A	81,272	101,880	155,688	182,016

Source: Laboratory, Peebles Hospital

QUALITY

Technical Quality

Quality improvement programmes for all aspects of health care is in progress/development. There is no ethical committee. The Medical Act 2000 allows for the provision for the establishment of a Medical Council. The Council has been recommended and will soon be appointed. There is no mechanism for regulating the practice of other health professionals. In 2000, out of 327 deliveries, there were 83 caesarean sections accounting for 25.38% of all deliveries. In 1999, there were 318 deliveries, of which 69 were by caesarean sections accounting for 21.7% of all deliveries. There were no maternal deaths for the last 10 years except one in 2000. There is no committee on Hospital Infectious Nosocomial Infections, and there is no member of hospital staff assigned to deal with this. However, there is a Quality Assurance Nurse who has responsibility for Community and Hospital Services.

Perceived Quality

There is no operational program for improving patient relations. We have developed an Employee Orientation Manual and a director of service. The Ministry of Health and the Environmental Health Division have developed service charters. The Hospital is currently working on a patient charter. We also intend to develop a health care provider bill of rights.

Pharmacy and Physiotherapy has a number of information leaflets for patients. No patient satisfaction surveys are undertaken even though patients are encouraged to submit their complaints in writing to the Director of Health Services.

3. 0 MONITORING AND EVALUATION OF HEALTH SECTOR REFORM

3.1 Monitoring the process - The British Virgin Islands have an overlay of health systems inherited from periods of colonialism, which are increasingly unable to provide affordable, effective and efficient service as well as respond to ongoing demands. For this reason, the territory, in 1993, attempted to carry out a health reform initiative. Health reform has been described as a process aimed at introducing substantive changes into the different agencies of the health sector, their relationships, and the roles they perform, with a view to increasing equity in benefits, efficiency in management, and effectiveness in satisfying the health needs of the population. This process is dynamic, complex, and deliberate; it takes place within a given time frame and is based on conditions that make it necessary and

workable. It is ideally a continuous process responding to dynamic demographic, medical, and economic changes.

The BVI Government agreed to undertake the United Kingdom Government-funded Health Sector Adjustment Project from 1993 to 1996. A wide range of consultancy assignments were undertaken to examine the health sector with regards to health status, epidemiology, policy, finance and planning and human resources. The objectives of the Project were:

- To implement a new management structure and process
- To revise planning approaches and systems
- To revise financing strategies and improved quality of care and optimized health outcomes

The results of the project were as follows:

- Agreement and partial implementation of a new management structure
- Undertaking of a number of health sector studies (including information, health promotion, accident prevention, mental health, and environmental health), which were accepted by local health managers as giving them a sound basis for further forward planning.

This project had very little success in terms of achieving its objectives. Significant progress was only realized in the resignation of the post of Chief Medical Officer to Director of Health Services, Chief Nursing Officer to Assistant of Director of Health Services and Hospital Administrator to Hospital General Manager. There has been no strengthening of the management systems and no activities were developed to build management capacity.

The Government's stated policy is to provide both public and private comprehensive health care, with a special focus on women, children, the elderly, the mentally ill, and the handicapped. The government is the main provider of acute medical and surgical services to the population. Government health activities and policies place strong emphasis on health promotion. The BVI does not have a formulated health plan. However, the main priorities are:

- Enhancement of hospital services
- Strengthening government primary health care services
- Improving all aspects of environmental health.

Free medical and hospital care is extended to pregnant women, children, the police, indigents, firemen, the elderly, diabetics, and the mentally ill. In an effort to strengthen services at the community level, the Community Health Services Department was established in 1990. The social services unit of the health department was established and became operational in July 1991; it is headed by a social worker, whose primary

responsibilities include providing social services support for the Department, particularly regarding mental health and AIDS prevention and control programmes.

In spite of the apparent failure of the Health Sector Adjustment Project, the BVI health sector has initiated several activities to strengthen its capacity. Within the context of the BVI Public Sector Development Programme, there has been new consultative process supported by the consulting firm, Ernst and Young to review and revise the management arrangements within the public sector and to examine the mission, vision and priority programmes for action. In addition, several initiatives proposed during the annual budgetary submissions have been started and in some cases completed.

These initiatives include the review and revision of the National Health Sector Emergency Management Plan. This plan was revised with the participation of all managers and representatives from all levels of the health sector as well as all the health related sectors in collaboration with the Department of Disaster Management (previously the Office of Disaster Preparedness). All stakeholders involved in the implementation of this plan were trained in its contents and their roles and relationships. Further activities such as simulations are planned to ensure that the plan is tested and revised as necessary.

Investment in health service infrastructure

The government of the BVI has committed to the building of a new hospital to replace the present Peebles Hospital, which is the sole public hospital. This will result in an increase in the number of beds available from 50 to 80. It would make provision for increased participation in the hospital by the local private sector physician community and offer a wide range of services including a haemodialysis decompression chamber and facilities for the accommodation of visiting specialists. It is expected that more nationals would seek care at the new hospital thus reducing the numbers seeking care overseas for conditions that can be managed in the territory.

Separation of provider purchaser functions for secondary care

Discussions have begun on mechanisms to separate the purchaser provider functions for secondary care. Several models are proposed in the discussion paper developed by health care consultants, Medical Overseas Holdings. If accepted, this would lead to the creation of a hospital board or governing authority, new management and accountability arrangements for the hospital and a separate role in clinical governance and financing for the entitled population for the Ministry of Health.

In the area of health care financing, there has been much discussion about the formation of a National Health Insurance Scheme. To this end with the support of DFID a feasibility study was

commissioned in June, 1998. To date however, no decisions have been made for concrete proposals.

Safe guarding the quality of medical practice

A new medical act was passed in 2000. This act allows for the formation of a Medical and Dental Council and on Allied Health Professions Council. These bodies which will operate independently of the Ministry of Health will seek to ensure quality practice of doctors, dentists and allied health professionals.

In 2000, the territory undertook a nursing education programme. Sixteen (16) nurses were up-graded from the certificate/diploma to the bachelorate BSN level. This programme was conducted by the H.L. Stoutt Community College in collaboration with the University of New York at Sunny Buffalo. It included nursing theory at the H. L. Stoutt Community College and practicum at Sunny Buffalo and a 6 months mentorship programme for the graduates.

It is expected that these up-graded nurses would bring a new vision and improved knowledge and skills to the local nursing practice.

In the area of public health, a programme has been developed to strengthen programme planning and programme management.

Six programme areas, namely Maternal and Child Health, Family Planning (Sexual Health, to include HIV/AIDS prevention and Cancer), Prevention of Chronic Disease (Diabetes), School and Adolescent Health, Healthy Elderly and Workplace Health (building on the Food Handlers and Immigration Clinics) have been targeted for action. This programme is facilitated by a short term consultant, Dr. Alwyn Moyer of Canada. It is expected that the community and public health programmes would be better focused with targeted objectives and improved monitoring and evaluation.

The territory is currently preparing to undertake a national consultation for the development of a national strategic plan to respond to the HIV/AIDS epidemic. It is expected that this new plan will include the participation of all relevant sectors and would yield a better programme of action and response to HIV/AIDS prevention and control including protection of human rights and access to antiretroviral therapy.

**The profile was prepared by a group of professionals and national policy decision makers from the Health Department of the British Virgin Islands and the PAHO/WHO Caribbean Program Coordination in Barbados. Technical coordination of the national group was the responsibility of the Health Department, British Virgin Islands and PAHO/WHO Caribbean Program Coordination in Barbados. Final review, edition, and translation are the responsibility of the Program on Organization and Management of Health Systems and Services of the Division of Health Systems and Services Development of PAHO/WHO.*

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15. **Mental Health in the BVI**

GLOSSARY OF TERMS

BVI	-	British Virgin Islands
BCG	-	Bacillus Calmette-Guerin
CT scan	-	Computerized Tomography Scan
DPHC	-	Director of Primary Health Care
DHS	-	Director of Health Services
DPU	-	Development Planning Unit
DPT	-	Diphtheria, Pertussis, Tetanus (vaccine)
ECDS	-	Eastern Caribbean Drug Services
EPI	-	Expanded Programme of Immunization
HGM	-	Hospital General Manager
HTA	-	Hypertension
MMR	-	Measles, Mumps and Rubella (vaccine)
OPV	-	Oral Polio Vaccine
PAHO/WHO	-	Pan American Health Organization/World Health Organization
PPS	-	Pharmaceutical Procurement Services
STDs	-	Sexually Transmitted Diseases
USVI	-	United States Virgin Islands