

BARBADOSIntroduction

During the interval since the 1970 conference, progress has been made in many areas and some of the objectives of the Development Plan 1969-72 have been achieved. In the area of nutrition, a National Nutrition Centre has been constructed and the incidence of mal-nutrition has been greatly reduced although the energy crisis is now having a counter effect. Great strides have been made in the reduction of infant mortality which fell from 45.9 per 1,000 live births in 1970 - 33.1 per 1,000 live births in 1973.

Much health legislation was also passed during the period in an effort to provide better health standards.

General Health Statistics

At the last census in 1970 the population in Barbados was 238,141. The estimated population at 31st December, 1973 was 240,500. The following are vital statistics for the years 1970-1973.

	1970	1971	1972	1973 *
Mid-year population	237,500	236,400	236,000	238,500
Number of live births	4,883	5,177	5,303	5,138
Birth rate per 1000 population	20.6	21.9	22.5	21.5
Number of deaths registered	2,064	2,058	2,045	2,287
Deaths occurring	N.A.	N.A.	2,114	2,144
Death rate per 1000 population	8.7	8.7	8.7	9.0
Natural increase (percent)	1.2	1.3	1.4	1.2
Number of infant deaths	224	151	182	170
Infant mortality rate per 1000 live births	45.9	29.2	34.3	33.1
Number of deaths 1-4 years	47	25	29	25
Death rate 1-4 years for 1000 population at risk	2.2	1.2	1.4	1.2

\* All information is provisional.

Deaths

The following table compares the 17 broad categories of deaths according to the International Classification of Deaths, Eighth Revision and the Crude Death Rates for the years 1970 to 1973:

	1970	1971	1972	1973
Infective and parasitic disease	83	66	57	55
Neoplasm	245	265	292	303
Endocrine, Nutritional and Metabolic Disease	154	122	112	140
Disease of Blood and Blood forming organs	10	7	11	8
Mental Disorders	11	13	14	8
Diseases of the Nervous system and sense organs	37	23	32	28
Disease of the circulatory system	858	938	945	910
Disease of the Respiratory system	171	184	195	190
Disease of the Digestive system	58	59	64	84
Disease of the Genito-urinary system	55	63	38	53
Complication of Pregnancy , Child-birth and the Puerperium	7	7	4	4
Disease of the skin and subcutaneous tissue	9	2	10	16
Disease of the Musculoskeletal system and connective tissue	7	7	8	7
Congenital anomalies	35	17	28	37
Certain causes of Perinatal Morbidity and mortality	108	91	120	92
Symptoms and ill-defined conditions	104	101	98	96
Accidents, Poisonings and violence (External cause)	112	93	86	112
<b>Total</b>	<b>2,064</b>	<b>2,058</b>	<b>2,114</b>	<b>2,144</b>
Crude Death Rate/100,000 Mid-year population	8.7	8.7	8.9	9.0

N.B. Figures for 1970 and 1971 are for registration of Deaths while those for 1972 and 1973 are occurrences and are still provisional.

Maternal Deaths for the years 1970 to 1973 are shown in the following table:

	1970	1971	1972	1973
Number of maternal deaths	7	7	4	5 *
Maternal mortality rate per 1000 live births	1.4	1.4	0.8	1.0 *

\* Provisional figures.

#### Organisation of the Health Services

The responsibility for the health services provided by Government rests with the Minister of Health and Welfare. There are no local authorities. The administrative head of the Ministry is the Permanent Secretary, while the Chief Medical Officer is responsible for the technical aspects of the services.

The health services provided by Government are divided into hospital and out-patient services and public health services.

#### Hospital Services

In 1973 hospital care was provided at ten Government institutions - one acute general (541 beds) one psychiatric (680) two district maternity (35), a leprosarium (8) and five district (813), and three private general hospitals with 113 beds; altogether giving a total of 2,190 available beds with a ratio of 9.2 beds/1000 population.

It should be noted that of these the 813 beds in the District Hospitals are utilised mainly by Geriatric and Welfare Cases.

#### Queen Elizabeth Hospital

The Queen Elizabeth Hospital is the only acute hospital operated by Government. It provides specialist services including an Intensive Care Unit, a Radiotherapy Department with a Cobalt Unit, an Obstetrics Department, and Specialist Out-patients Clinics.

The statistics below indicate the general turnover for the years 1970 - 1973.

	1970	1971	1972	1973
Number of beds	545	545	545	541
Admissions	16,322	16,774	18,120	18,193
Discharges (including deaths)	16,325	16,076	18,271	17,447
Average daily census	444	453	479	490
Percentage occupancy	82	81	88	91
Out-patient attendances Specialised Clinics	63,485	67,549	75,776	76,631
Casualty and General Practitioners	78,546	78,963	67,586	66,802

### Mental Hospital

The Psychiatric Hospital is now offering all modern therapy to mental patients. Greater emphasis is now being placed on out-patient service and to this end facilities were improved with the opening in 1972 of a new Out-patient Clinic. During 1973 there were some 10,156 out-patient attendances at this Clinic.

### District Hospitals

After the abolition of the Local Authorities, the eleven infirmaries (one in each parish) were reduced to five District Hospitals which serve as convalescent and welfare homes accommodating mainly geriatric patients. Since these institutions became the responsibility of the Ministry, an attempt has been made to improve the quality of health care delivered by them through a programme of administrative reform, and of physical upgrading.

### Maternity Hospitals

There are two District Maternity Hospitals with 35 beds and the Queen Elizabeth Hospital with 58 obstetrical beds making a total of 93 obstetrical beds provided by Government. There are two private hospitals which also provide beds for maternity cases.

These facilities are now used by 95% of the population, a marked increase over the 1966 figure of 53.7%.

The 1970-73 statistics are set out below:

	1970	1971	1972	1973
Total births registered	4,939	5,262	5,454	5,229
Total Institutional	4,538	4,819	5,151	4,966
Government	4,128	4,599	4,775	4,615
Private	410	220	376	351
Percentage Institutional	91.9	91.2	94.4	95.0

There has been a considerable reduction in the infant mortality rate which was one of the highest in the Eastern Caribbean in 1970 (45.9/1000 live births). It has now remained steady at 32.2/1000 live births during the period 1971-73.

#### Out-patient Clinics

Out-patient Clinics are held in each of the eleven parishes conducted by District Medical Officers who serve on a part-time basis. They are assisted by a number of nurses who also do some visiting. These clinics are provided with dispensary facilities and are mainly for persons who are unable to pay medical attention.

#### Chronic and Degenerative Diseases

The Department of Radiotherapy established at the Queen Elizabeth Hospital in 1969, was expanded in 1972 with the installation of a Cobalt Unit, which serves the Leeward and Windward Islands as well as Barbados. In addition, there is a cancer Registry which, in co-operation with the Pathological Department, Queen Elizabeth Hospital, registers new cancer cases. At the end of 1973 there were some 957 new cases registered.

Statistics from this Department for the years 1970 - 1973 are as follows:-

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>
New patients referred	299	327	302	402
New cancer cases	199	232	247	279
Out-patient attendances	1,197	1,440	1,483	1,892
Overseas patients	58	78	64	106

The Cobalt machine has been in operation from December 1972, and up to the end of 1973, 197 patients had received some 3,606 treatments.

An Intensive Care Unit with 10 beds was opened at Queen Elizabeth Hospital in 1971 to deal with patients requiring special medical and nursing care.

#### Public Health Services

These services may be divided into preventive and environmental.

#### Health Centres

For the purpose of preventive services the island is divided into three areas each under the control of a Medical Officer of Health who supervises a team of public health nurses.

They are three health centres as well as six sub-centres and at these are held ante-natal, child health, V.D. and tuberculosis clinics. They also administer an immunisation service against smallpox, poliomyelitis, tetanus, diphtheria and whooping cough, and when required yellow fever and cholera.

The Enmore Health Centre in St. Michael is equipped with laboratory facilities which process the work from the other centres as well as cases referred by District Medical Officers or medical practitioners.

### Environmental Health

For environmental health purposes the island is divided into four areas which are under the responsibility of a Chief Public Health Inspector. Each area is divided into two zones under the control of a Senior Inspector. Each zone is further subdivided into a number of districts each of which is the responsibility of a District Inspector. The Public Health Inspectorate, like the Public Health Nursing Service, is directly responsible to the Medical Officers of Health who in turn are responsible to three Senior Medical Officers of Health working directly under the Chief Medical Officer.

Quarantine services are carried out at the seaport and at the airport by a team of public health inspectors who are responsible through a Medical Officer of Health and a Senior Medical Officer of Health to the Chief Medical Officer.

### Environmental Health Sanitation

The Waterworks Department provides a piped borne water system throughout the island. All the water is derived from underground sources, it is of good quality and is chlorinated. At the end of 1973 it was estimated that 62% of the total population was served by water piped directly into their homes, while the remaining 38% had easy access to the public supply.

### Sewage Disposal

There is no public sewerage system in the island. Sewage disposal is effected mainly by means of suckwells and septic tanks while houses without water connections usually make use of pit latrines. A few hotels have their own treatment plants.

It is proposed to instal a sewerage system for the City of Bridgetown and its environs and a study has just been completed and a design for the system submitted. The Project is still under discussion.

### Refuse

The collection and disposal of refuse is the responsibility of the Sanitation and Cemeteries Board, a statutory board under the Ministry of Health. The Board is advised by the Chief Medical Officer and the Senior Public Health Engineer and efforts are being made to improve collection and disposal methods.

At the end of 1973 there were 51 collection vehicles. In an effort to improve the service an order has now been placed for compactor vehicles and equipment for a pulverisation plant.

Communicable Disease Control

There has been no major outbreak of communicable disease during the past 4 years apart from 742 cases of measles recorded in 1970 and 1,551 cases of influenza with 12 deaths reported in 1973. No cases of poliomyelitis, occurred during the period under review. Malaria, yaws, trachoma, and Schistosomiasis do not occur. Only 1 case of leprosy in 1972 and 2 cases in 1973 were recorded. At the end of 1973 there were 7 patients in the leprosarium of whom only 3 were active.

Following are some communicable diseases with deaths reported during the years 1970 - 1973.

Diseases	1970		1971		1972		1973	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Diphtheria	37	1	20	-	24	1	3	1
Leptospirosis	26	11	22	13	12	5	8	4
Tetanus	8	2	21	9	12	7	13	6
Tuberculosis	22	8	27	9	13	6	18	10
Typhoid Fever	9	1	4	-	7	-	4	1

Routine immunisation is carried out at all Child Health Clinics and compulsory legislation has been enacted from January, 1971, whereby all children entering school must be immunised against diphtheria, whooping cough, tetanus and poliomyelitis.

A mass immunisation polio campaign was carried out in 1971 for children under the age of 9 years. A total of 42,125 doses of vaccine was given, with 11,073 children completing the third dose.



Routine tuberculin testing was discontinued from 1971, but B.C.G. is administered to all children at school entry, and to tuberculin negative contacts of notified cases.

Venereal disease is not notifiable. Listed below are statistics for syphilis and gonorrhoea recorded at Health Centres, where treatment is free, for the period 1970 - 1973.

	1970	1971	1972	1973
Total first attendances	2,061	1,657	1,492	1,854
Syphilis	474	412	515	633
Gonorrhoea	1,587	1,245	977	1,221
Total attendances	18,695	17,695	15,437	17,733

The *Aedes aegypti* Eradication Programme which started in 1954 is still in operation, and the incidence of the mosquito in premises is below 1 per cent. Every effort towards complete eradication is still being made.

Details of immunisations carried out during the past four years are given below:

Immunisation	1970	1971	1972	1973
Diphtheria Toxoid	148	70	90	42
Tetanus Toxoid	3,130	3,004	3,028	4,220
Diphtheria & Tetanus	4,503	4,148	4,187	1,949
D.P.T.	14,901	26,574	25,446	22,183
Polio	26,680	29,985	31,051	24,176
Smallpox	14,584	19,683	18,197	17,309
T.A.B.	5,758	2,891	2,329	5,460
Influenza	42	-	-	-
Cholera	55	170	242	450
Yellow fever	258	164	263	208
B.C.G.	9,624	6,652	3,925	4,636

National Nutrition Centre

The Nutrition Project and Applied Nutrition Programme have been integrated with the opening of the National Nutrition Centre in 1972. The Nutrition Project established since 1967 has been fulfilling its objectives of combating the problems of malnutrition in children. The period under review has witnessed a reduction in hospital days of 79% and the average length of stay in hospital has been reduced from 93 to 26 days. In the year before the programme started the readmission rate was 25% and at the end of 1973 it had fallen to 2%.

School Health Service

The school health service is at the moment concerned with treating dental and ophthalmic problems occurring in children between the age of 5 and 15.

Dental Service

Towards the end of 1971, the dental service was re-organised, and at the end of 1973 there were three full-time dental officers, two dental auxiliaries, two hygienists and five dental assistants, with a total of six fully equipped dental surgeries for operating this service.

The attention of the service is now concentrated on prevention and treatment of tooth diseases, and not merely extractions for pain. The following statistics bear out this point.

	1970	1971	1972	1973
Attendances	16,393	13,897	15,502	19,719
Extractions	18,701	16,711	12,724	12,492
Fillings	144	1,061	4,765	10,269
Prophylactics	458	200	1,326	1,855

Ophthalmic Service

In this service three part-time ophthalmologists are employed. The children are treated and given spectacles if necessary.

The statistics for attendances and spectacles supplied for the period under review are set out below:

	1970	1971	1972	1973
Attendances	4,041	3,978	3,532	3,488
Spectacles supplied	1,063	1,144	1,134	1,374

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At the moment there is no medical school Health service but it is hoped to develop this.

Health Education

With the establishment of the post of Health Education Officer in the Ministry of Health a national health education programme has been undertaken in collaboration with the Ministry of Education and the Government Information Service. Emphasis is being placed on preventable and controlled diseases such as diphtheria, tetanus, hypertension and cancer. There were frequent talks on the Radio and Television, and the distribution of leaflets with information on these diseases.

Medical and Allied Personnel & Training Facilities

At the end of 1973 there were approximately 160 doctors practising in the country, of which 98 were working full-time and 22 part-time in the Government health services. The doctor/population ratio was 1:1491, dentist/population 1:14,906 and nurse/population 1:408.

Below is a list of some of the health personnel for the years 1970 - 1973.

Personnel	1970	1971	1972	1973
Doctors	125	130	140	160
Dentists	15	15	15	16
Veterinarians	5	5	5	5
+ Nurses/midwives	451	531	542	584
+ Nursing assistants	344	310	314	394
Sanitary engineer	1	1	1	1
Sanitarians	84	84	84	84
Physiotherapists	4	4	4	4
Laboratory technicians	27	36	32	28
Radiographers	12	14	14	14
X-Ray Assistants	11	11	7	9
* Druggists	68	64	63	73
Health educator	-	1	1	1
Dietitian/nutritionists	2	2	2	1

+ Nurses in health institutions.

\* No of druggists registered.

#### Training Facilities

Since 1967 the Queen Elizabeth Hospital has been used by the University of the West Indies as a teaching hospital for final year medical students. It is now proposed to extend this programme to include fourth year students as well. The idea of offering post-graduate training is also under consideration.

The Tercentenary School of Nursing is responsible for the training of nurses, midwives and nursing assistants whilst the training of Mental Nurses is undertaken at the Mental Hospital.

Details of nurses in training and those graduating during the years 1970-73 are listed below:

Year	Nurses in Training	Graduated				Total
		General Nurses	Mental Nurses	Mid-wives	Nursing Ass'ts.	
1970	226	40	10	15	26	91
1971	253	44	14	20	20	98
1972	269	37	74	14	36	101
1973	234	39	8	21	33	101

At the moment the only paramedical staff trained locally are dispensers and occasionally public health inspectors. However it is proposed to establish a Division of Health Sciences at the Barbados Community College where courses will be offered for public health inspectors, public health nurses, dispensers and occupational therapy assistants. Training will also be provided in some sections of laboratory technology. Facilities for training other health personnel as Dental Auxiliaries, Physiotherapists, and persons doing Nursing Administration and Education and Medical Records will be available in Jamaica.

#### Public Health Problem

Barbados is fortunate in not having many public health problems as compared with other developing tropical countries.

Protein calorie malnutrition in infants which had been one of the more pressing problems has shown considerable improvement as a result of the activities of the recently established National Nutrition Centre. Towards the end of 1973 there were some indications that infantile malnutrition was increasing slightly. This may be the effect of world wide inflationary trends particularly on persons in the lower socio-economic groups.

Leptospirosis still presents a problem. The reported cases during the period under review can reflect only a small part of the real problem. The mortality rate among reported cases is high being approximately 50%. Plans for establishing, with assistance from PAHO and UNDP, a Veterinary Public Health Unit in the Ministry of Health are will advanced.

Venereal Diseases remain a problem. Available statistics do not represent the true picture as the diseases are not notifiable.

During the period under review there has been a gratifying decrease in the incidence of diphtheria. No case of poliomyelitis has occurred.

#### National Health Planning

The Ministry of Health has responsibility for the planning and implementation of health projects. In the current development plan some of the objectives of the health sector are to improve environmental sanitation, develop rehabilitation and geriatric services, improve the care of the mentally ill and reduce the incidence of mental disorders and to improve the dental health of the community.

To help meet these aims a sewerage system for Bridgetown is planned, and a solid waste programme is underway, stress being laid on the education of the public.

It is proposed to fluoridate the water supply and to have a better system of water quality control.

It is also proposed to integrate the present preventive and curative services to provide a more efficient and cost effective delivery of health care. Community Health Centres will provide dental care, maternal and child services and general and psychiatric outpatient services.

To carry out its projects the Ministry of Health has a budget of BDS\$29.7 million this year, 18.3% of the total budget.

Details of expenditure on health services with percentages of the total annual budget for the years 1970-73 are set out below in Barbados dollars:

Year	Total Government Budget	Government Expenditure on Health		
		Amount	% of Total Budget	Per Capita
1970-71	99,072,801	15,593,410	15.7	65.65
1971-72	114,134,012	17,613,702	15.4	74.50
1972-73	126,323,798	18,744,506	14.8	79.45
1973-74	146,315,036	26,337,201	18.0	110.43

The figures for 1973-74 are provisional.

### General

During the period under review much legislation has been enacted.

The Medical Registration Act (1971-10) was passed to cover the registration of medical practitioners. The Act repealed the Medical Registration Act 1911 which limited registration of doctors in Barbados to those persons who were qualified to practise in the United Kingdom or who were licensed to practise in the State of New York. Under the new Act any person who holds a qualification that entitles him to practise in the country in which the qualification was obtained is eligible, at the discretion of the Medical Council, for registration.

The Dental Registration Act, 1973 and the Nurses and Midwives (Registration) Act, 1973 contain similar provisions to those outlined above for the registration of Dentists and Nurses and Midwives.

Regulations were passed during the period setting standards for Bakeries, Hairdressers, and Lodging Houses and Barracks. Other regulations during the period sought to control the use of artificial sweeteners in food, made provision for the control of certain drugs and sought to ensure that the Medical Officer of Health in each of the 3 areas in the island is aware of all births taking place in his area.

The Ministry of Health keeps its projects including legislation constantly under review so as to ensure that best possible standards of health are maintained in the context of our limited resources.