

BARBADOS HEALTH REPORT 2023



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The Most Honourable Dr. Kenneth George
Chief Medical Officer

Foreword

I am pleased to introduce the Barbados Health Report 2023 from the Ministry of Health and Wellness (MHW). This report provides a comprehensive overview of our health status, designed to be accessible to healthcare practitioners, government partners, and the general public. This document not only provides a snapshot of our current health status but also serves as a strategic guide for policymakers, healthcare professionals, and the general public to work collectively towards a healthier Barbados.

At the core of this report is an analysis of key health determinants, initiatives and services that provide insight into the overall performance of the health system. They span multiple dimensions of health, including maternal and child health, communicable and non-communicable diseases, mental health, and determinants such as nutrition, physical activity, and environmental factors. This analysis provides critical insights into areas of strength and highlights where targeted interventions are needed to improve outcomes.

The Ministry of Health and Wellness is committed to enhancing healthcare by promoting wellness and establishing a sustainable behaviour change model. The MHW envisions continued collaboration with healthcare professionals, NGO partners, and the Barbadian community to foster an environment conducive to improved population health.

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Acronyms and Abbreviations

AA-HA	Adolescent Action for the Health of Adolescents	ICU	Intensive Care Unit
ACEP	Alternative Care of the Elderly Programme	IMR	Infant Mortality Rate
ACGDC	The Albert Cecil Graham Development Centre	LRU	Ladymeade Reference Unit
AED	Accident and Emergency Department	MAFS	Ministry of Agriculture and Food Security
AIDS	Acquired Immune Deficiency Syndrome	MHW	Ministry of Health and Wellness
ARB	Angiotensin II Receptor Blockers	MMR1	Measles, Mumps, Rubella Vaccine
ART	Antiretroviral Therapy	MSM	Men who have Sex with Men
BCC	Barbados Community College	NCD	Non-Communicable Diseases
BDS	Barbados Drug Service	NG	Gonorrhoea
BDSPHL	Best-dos Santos Public Health Laboratory	NGO	Non-Governmental Organization
BFPA	Barbados Family Planning Association	NNC	National Nutrition Centre
BIBA	Barbados International Business Association	PAHO	Pan American Health Organization
BNR	Barbados National Registry	PH	Psychiatric Hospital
BWA	Barbados Water Authority	PLHIV	Persons living with HIV
CARPA	Caribbean Public Health Agency	PMTCT	Prevention of Mother to Child Transmission
CD4	Cluster of Differentiation 4	PPP	Private Participating Pharmacies
CDC	Centers for Disease Control and Prevention	QEH	Queen Elizabeth Hospital
CNO	Community Nutrition Officer	SPDH	St. Philip District Hospital
CT	Chlamydia	SSB	Sugar-Sweetened Beverages
CVD	Cardio Vascular Disease	STI	Sexually Transmitted Infection
DTHSSC	David Thompson Health & Social Services Centre	TB	Tuberculosis
EMTCT	Elimination of the Mother-to-Child Transmission	THE	Total Health Expenditure
ENT	Ear Nose and Throat	TLC	Transplant Links Community
GDP	Gross Domestic Product	UHC	Universal Health Coverage
GH	Geriatric Hospital	UN	United Nations
GIS	Geographical Information System	UNAIDS	United Nations Programme on HIV and AIDS
H1N1	Influenza Swine Flu/ Hemagglutinin 1	USAID	United States Agency for International Development
HCTZ	Neuraminidase 1	UWI	University of the West Indies
HIV	hydrochlorothiazide	WHO	World Health Organization
HRH	Human Immunodeficiency Virus	WSPC	Winston Scott Polyclinic
IAEA	Human Resources for Health		
	International Atomic Energy Agency		

INTRODUCTION

The theme ‘Health For All’, celebrated on World Health Day 2023 promotes a vision that everyone, everywhere, should have access to good health to live fulfilled lives in society and acknowledges the right to good health as a fundamental human right.

In this regard, the Ministry of Health and Wellness (MHW) remained dedicated to the goal of "ensuring healthy lives and promoting the well-being for all at all ages." During the year under review, continued focus was placed on developing policies and programmes to promote wellness while providing quality health services to the people of Barbados. This report provides a comprehensive overview of the health sector's performance in 2023, highlighting key achievements, ongoing initiatives, and areas requiring further attention.

According to the World Bank Data Group (2022), life expectancy at birth in Barbados is 78 years. The country has strong maternal and child survival rates, declining rates of infectious diseases, good access to essential medicines, and trained midwives and doctors present at every delivery. In Barbados, healthcare is free at the point of delivery and is funded through the government's consolidated fund. This publicly funded healthcare model has helped develop the country's human capital, contributing to strong well-being indicators as mentioned above.

The investment in public health infrastructure has been identified as one of the most notable highlights of 2023. Structurally robust physical plants supports not only responsive resilience to any hazards but safeguards reliability of service provision to the community. The Government of Barbados, in collaboration with its international partners, embarked on several projects to upgrade healthcare facilities across the island. A major milestone was the refurbishment of the Queen Elizabeth Hospital, the country's primary tertiary care institution, including the opening of the newly refurbished Accident and Emergency Department. These upgrades encompassed the addition of medical equipment and expanded emergency services.

Another highlight includes the construction of the new Geriatric Hospital Facility. The ground-breaking ceremony took place on March 13, 2023, and the hospital is projected to be completed by 2025. Barbados Tourism Investment (BTII) is overseeing the construction of the project. The new facility aims to deliver comprehensive medical, nursing, and rehabilitation services to clients, enhancing their physical and mental well-being. The hospital's thrust will support independent living for as long as possible with accompanying programmes. Once completed, the facility will accommodate up to 408 beds, addressing the growing healthcare needs of our elderly community.

In 2023, recognising the impact of mental health on overall well-being, the MHW placed greater emphasis on enhancing services by expanding mental health clinics, and integrating mental health care into primary care settings. Additionally, a draft Mental Health Roadmap was developed in collaboration with the Pan American Health Organization (PAHO). The roadmap outlines steps for transitioning the current Mental Health Programme to one that aligns with international best practice with recommendations for the improvement of mental health services. The Road Map establishes a framework through which the MHW is able to detail plans, recruit partners to achieve mental health objectives and define management practices that facilitate efficient and effective delivery of quality care.

The progress achieved in 2023 would not have been possible without the collaborative efforts of various stakeholders, including government agencies, non-governmental organizations, and international partners. Collaboration with other government ministries and NGOs significantly enhanced the impact of health programmes in 2023 by addressing health challenges from multiple angles, contributing to a whole-of-government approach, integrating health priorities into areas like school health promotion, social support systems, and food security initiatives. Additionally, the partnerships with entities such as the Pan American Health Organization, the World Health Organization provided technical expertise, funding, and resources essential for the successful implementation of the Ministry's health programmes.

HEALTH IN THE CONTEXT OF DEVELOPMENT

Economic Determinants

Barbados is considered a high-income country. The economy is service based with tourism being the main driver of economic activity. From 2021 to 2023, Barbados experienced notable economic and social changes. According to the 2023 Central Bank Report, the country's real GDP growth surged from 1.4% in 2021 to 13.8% in 2022, before declining to 4.4% in 2023 as seen in Table 1.

Inflation rates rose steadily from 1.3% in 2021 to 4.9% in 2022 and further to 5.2% in 2023. This upward trend highlights ongoing price pressures that may impact the cost of living and the purchasing power of the population. The unemployment rate showed improvement, moving from 10.9% in 2021 to 7.2% in 2022, before stabilising at 8.2% in 2023.

Nominal GDP grew consistently from 9,890.6 million BBD in 2021 to 11,681.3 million BBD in 2022, reaching 12,776.0 million BBD in 2023 as seen in Table 1. This growth reflects an overall expansion in the economic output of Barbados. Per capita GDP also showed significant improvement, increasing from 34,788 BBD in 2021 to 41,476 BBD in 2022, and further to 45,344 BBD in 2023.

Table 1: Selected Economic and Demographic Indicators, Barbados 2021-2023

Indicator	2021(p)	2022(e)	2023 (e)
Real Growth (%)	(1.3)	13.8	4.4
Inflation (%)	1.6	4.9	5.2
Unemployment (%)	10.9	7.2	8.2
Expenditure on health as % of the country's total	9.4	11	8.0
Nominal GDP (Million BBD)	9,890.6	11,681.3	12,776.0
Per Capita GDP (BBD)	34,788	41,476	45,344

Source: Central Bank Annual Report 2023

Demographics

Barbados' total estimated mid-year population decreased from 270,594 in 2021 to 268,659 in 2022, and further to 267,456 in 2023 as seen in Table 2. Females (137,547 or 51.5%) dominate the age group in almost every age category as seen in Figure 1. However, women of reproductive age (15-44 year), decline slightly from 56,829 in 2021 to 56,061 in 2023. In addition, the age distribution indicated a demographic trend towards an aging population as seen in Table 3.

Among the age groups, individuals aged 45-49 years represented the largest section with 20,474 individuals, followed closely by those aged 35-39 years at 19,664. In contrast, the age group 85 years and older comprised the smallest section with 4,824 individuals, reflecting a relatively smaller population compared to younger cohorts.

Live births decreased from 2,290 in 2021 to 2,154 in 2022 but increased to 2,243 in 2023. The birth rate per 1,000 population followed a similar trend, moving from 8.5 in 2021 to 8.0 in 2022, and then rising to 8.4 in 2023. The fertility rate per 1,000 women aged 15-44 years declining from 1.3 in 2021 to 1.0 in 2022, before increasing to 1.2 in 2023.

Deaths occurring during the year increased from 3,149 in 2021 to 3,317 in 2022, and slightly decreased to 3,300 in 2023. The death rate per 1,000 population rose from 11.6 in 2021 to 12.3 in 2022 and remained stable at 12.3 in 2023.

The stillbirth rate per 1,000 total births increased from 6.1 in 2021 to 6.5 in 2022, and further to 8.0 in 2023. Infant deaths showed variability, with a rate of 10.9 per 1,000 live births in 2021, peaking at 18.1 in 2022, and then dropping to 7.6 in 2023. Neonatal deaths followed a similar pattern, with a rate of 7 per 1,000 live births in 2021, rising to 13.5 in 2022, and then declining to 6.7 in 2023.

Perinatal deaths per 1,000 live births increased from 10.9 in 2021 to 14.8 in 2022, and then decreased to 12.9 in 2023. Deaths in children under 5 years showed a decrease, with the mortality rate per 1,000 population falling from 1.6 in 2021 to 1.1 in 2023.

Maternal deaths remained low, with three deaths reported in both 2021 and 2022, increasing to four in 2023. As a result, the maternal death rate per 1,000 live births rose slightly from 1.3 in 2021 to 1.4 in 2022, and then to 1.7 in 2023 as seen in Table 2.

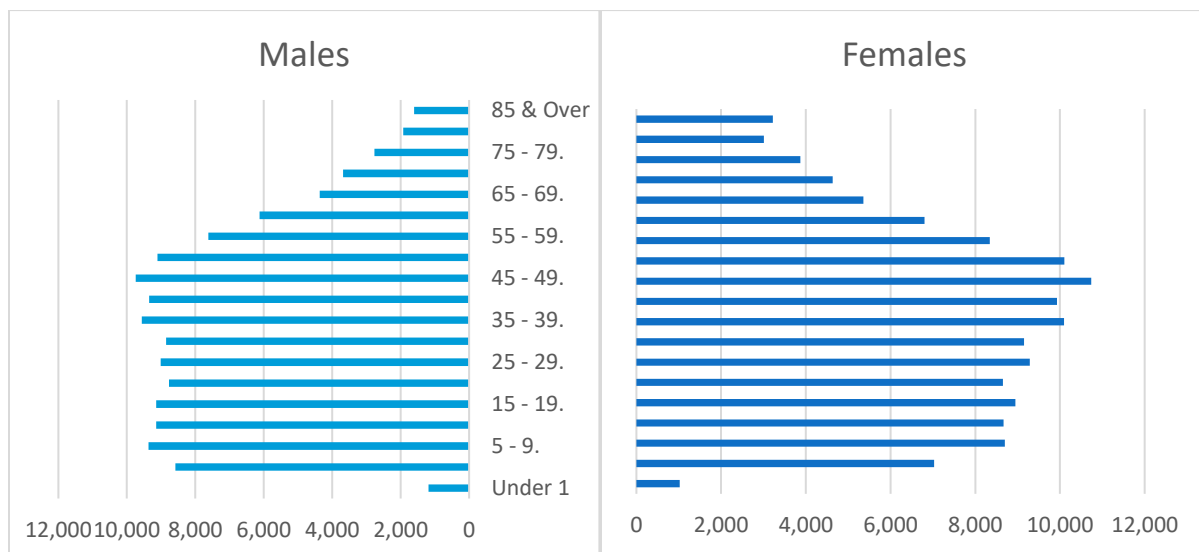
Table 2: Basic demographic information for 2021-2023

Basic Demographic Indicators		2021	2022	2023
Total estimated mid-year population (1)		270,594	268,659	267,456
Population under 1 year		2,208	1,667	2,211
1 - 4 years		14,653	15,122	15,618
5 - 14 years		36,347	36,192	35,871
15 - 19 years		18,333	18,255	18,093
20 - 44 years		93,895	93,495	92,665
45 - 64 years		69,480	69,185	68,569
65 years and over		34,890	34,742	34,429
Women	15 -44 years	56,829	56,592	56,061
Live Births		2,290	2,154	2,243
Birth rate (per 1,000 population)		8.5	8.0	8.4
Fertility rate (live birth per 1,000 women 15-44 yrs)		1.3	1.0	1.2

Deaths occurring during the year	3,149	3,317	3,300
Death rate (per 1,000 population)	11.6	12.3	12.3
Stillbirths	14	14	18
Stillbirth rate (per 1,000 total births)	6.1	6.5	8.0
Natural increase	-859	-1163	-1057
Natural increase rate (per 1,000 population)	-3.2	-4.3	-3.9
Infant deaths	25	39	17
Infant death rate (per 1,000 live births)	10.9	18.1	7.6
Perinatal deaths	25	32	29
Perinatal death rate (per 1,000 live births)	10.9	14.8	12.9
Neonatal deaths	16	29	15
Neonatal death rate (per 1,000 live births)	7	13.5	6.7
Deaths in children 1-4 years	3	1	3
Age specific death rate in children 1-4 years (per 1000 population)	0.2	0.1	0.2
Deaths in children < 5 years	28.0	41	20
Age specific mortality rate in children < 5 years	1.6	2.4	1.1
Maternal deaths	3	3	4
Maternal death rate (per 1,000 live births)	1.3	1.4	1.7

Source: Barbados Statistical Service & Records Department Planning and Research Unit

Figure 1: Barbados population pyramid 2023



Source: Barbados Statistical Service

Table 3: Age and gender population distribution in 2023

Age-Group	Both Sexes	Males	Females
All Ages	267,456	129,909	137,547
Under 1	2,211	1,189	1,022
1 - 4.	15,618	8,586	7,032
5 - 9.	18,066	9,370	8,696
10 - 14.	17,805	9,140	8,665
15 - 19.	18,093	9,147	8,946
20 - 24.	17,420	8,768	8,652
25 - 29.	18,297	9,012	9,285
30 - 34.	18,006	8,854	9,152
35 - 39.	19,664	9,565	10,099
40 - 44.	19,278	9,351	9,927
45 - 49.	20,474	9,737	10,737
50 - 54.	19,213	9,107	10,106
55 - 59.	15,959	7,617	8,342
60 - 64.	12,923	6,122	6,801
65 - 69.	9,722	4,365	5,357
70 - 74.	8,313	3,681	4,632
75 - 79.	6,640	2,770	3,870
80 - 84.	4,930	1,922	3,008
85 & Over	4,824	1,606	3,218

Source: Barbados Statistical Service

HEALTH CONDITIONS AND TRENDS

Maternal and Child Health

0– 4 years

Infants and children 0 – 4 years represented 6.67% of the estimated total population in 2023, as shown in Table 3. In 2023, there were 20 deaths in children under 5 years (a decrease from 41 in 2022; there were 17 deaths in infants, a notable decrease from 39 in 2022, as seen in Table 2. The estimated infant mortality rate was 7.6 per 1,000 live births, a decrease from 18.1 in 2022. The corresponding age-specific death rate in children 1 – 4 years old was 0.2 death per 1,000 populations in 2023. The perinatal mortality rate in 2023 was 12.9 deaths per 1,000 births, a decrease from 2022.

Government clinics regularly monitor children for their growth and development, recognising that a baby's progress in the womb profoundly influences the health of future generations. The success of foetal development plays a role in shaping the health outcomes of newborns and impacts their risk of diseases in adulthood. Therefore, ensuring optimal perinatal health is essential not only for individual well-being but also for the broader societal and future generational health.

Children 5 – 14 years

In 2023, the age group 5 – 14 years represented 13.41% of the total population. In 2023, there were seventeen deaths in this age group as seen in Appendix I. The number of deliveries among women younger than 15 years increased from 1 in 2022 to 3 in 2023 as seen in Appendix II. The number of terminations of pregnancy decreased from 1 in 2022 to 0 in 2023 as seen in Appendix III. At age 11 years, children are given a booster of diphtheria, polio, and tetanus vaccines as part of the entry requirement into secondary school. The overall health status of this group is good.

Adolescent Health 15 – 24 years

In 2023, persons aged 15 – 24 years represented 13.27% of the total population as seen in Table 3. There were 30 deaths in this age group in 2022, assault/homicide (4), accidental threats to breathing (3), diseases of the nervous system except meningitis (5), remainder of diseases of the respiratory system (5), disease of the urinary system (1), accidental drowning and submersion (1),

nutritional deficiencies and anaemias (1), motor vehicle traffic accidents (1) and remainder of all the diseases (5) as seen in Appendix I. In 2023, there were 649 deliveries to females 15 – 24 years, an increase from 2022 when there were 584 deliveries as seen in Appendix II. In 2023, there were 96 terminations of pregnancy to women 15 – 24, compared to 67 in 2022 as seen in Appendix III.

In 2022, births to teenagers were 157 (7.6%) of all deliveries as seen in Appendix II. In 2022, there were 144 (7.4%). Of the total number of terminations in 2023, 17 were in teenagers, a decrease from 20 in 2022 as seen in Appendix III.

Adults 25 – 64 years

In 2023, adults 25 – 64 years represented 53.77% of the total population as seen in Table 3. The total fertility ratio in 2023 was 1.2 children per woman 15 – 44 years old an increase from 1.0 in 2022 as seen on Table 2. Data from the BFPA indicated that in 2023 there were 5,958 attendances at the institution. Medical services and pap smears accounted for most of the procedures as shown in Appendix IV. In 2023, the family planning methods preferred by adults were short-acting reversible contraceptives, pills and injections) and emergency contraceptives, as seen in Appendix IV.

With the promotion of early registration for prenatal services, women were seen by the 12th week of gestation and regularly thereafter for monitoring maternal health and foetal growth, as well as to prevent medical complications for both mother and baby during pregnancy.

In 2023, there were 72 deaths among 25–44 years as seen in Appendix I. The leading causes of death in this group were remainder of diseases of the respiratory diseases (3), remainder of all other diseases (6), malignant neoplasm of the breast (7), pulmonary heart disease (14), diseases of the nervous system except meningitis (5), and motor vehicle traffic accidents (6) as seen in Appendix I.

In the same year, there were 592 deaths among persons 45 – 64 years, and the leading causes were diabetes mellitus (32), malignant neoplasm of colon (27), ischemic heart disease (42), pulmonary

heart disease (60), cerebrovascular diseases (40) malignant neoplasm of breast (41), malignant neoplasm of other and unspecified sites (22), malignant neoplasm of digestive organs and peritoneum (27), hypertensive diseases (30), remainder of diseases of the respiratory system (19), all other diseases of the digestive system (14), diseases of the urinary system (25), and remainder of all diseases (31) as seen in Appendix I.

65 years and older

In 2023, the persons 65 years and older represented 12.86% of the general population as seen in Table 3. In 2023, there were 2,507 deaths among persons 65 years and older, the leading causes were diabetes of the urinary system (142), remainder of respiratory diseases (182), malignant neoplasm of prostate (127), diabetes mellitus (277), cerebrovascular diseases (188), hypertensive disease (190), ischemic heart disease (146), pulmonary heart disease (154) and acute respiratory infection (210) as seen in Appendix I. With an increasingly aging population, there are growing opportunities to enhance healthcare and social services, particularly for individuals aged 65 and older.

The rising incidence of NCDs in the population underscores the need to emphasise wellness, especially among older adults. To maintain good health, seniors need to preserve mobility and functionality, minimise complications from existing conditions, stay socially active, and contribute to their families and communities. Furthermore, alternative community-based institutional care is necessary to cater to the growing elderly population.

ORGANISATION AND REGULATION OF THE HEALTH SYSTEM

Health System Organisation

The MHW is the major executing agency for the delivery of health care in the public sector. It is headed by a Minister whose authority is vested in the Health Services Act Cap 44 of the Laws of Barbados. The Minister has overall responsibility for formulating health policies; setting strategic directions, norms and standards; enforcing regulations, and providing leadership for the sector. Decision-making is centralized, and there are no local health authorities.

The Permanent Secretary is the administrative head of the Ministry, functioning as the Chief Executive and Accounting Officer, and is responsible for the proper functioning and fiscal oversight of all sections of the Ministry. The Chief Medical Officer (CMO) is responsible for all technical and professional functions of the health sector. In this regard, the CMO has statutory responsibilities which are wide-ranging and include oversight of the practice of health care professionals, as well as the standards of clinical practice throughout the sector.

The overarching objectives of the MHW are to promote health, provide comprehensive health care, regulate the provision of health services and ensure that environmental concerns are considered, in all aspects of national development. In addition to these objectives, the draft Barbados Strategic Plan for Health and the UN Sustainable Development Goals have provided strategic directions and guidance for the delivery of health services.

Composition of Health Care Services

The health services are organised into the following programme areas:

- Primary Health Care is delivered from the nine polyclinics and two outpatient clinics that are strategically located along the major road networks within each catchment area. Based on the primary health care approach, the polyclinics provide a range of preventive and curative services, these include maternal and

child health, immunisation, family planning, dental care, general practice (GP), nutrition counselling and environmental health.

- Acute, Secondary, Tertiary and Emergency Care are delivered at the Queen Elizabeth Hospital (QEH). Additionally, the Medical Aid Scheme facilitates access to services that are not available in the country, and this is facilitated by the QEH.
- Mental Health Care is delivered at the Psychiatric Hospital, the QEH and nine polyclinics provide community mental health services.
- Care for the Elderly is provided through the Geriatric Hospital (GH) and three District Hospitals that provide long-term in-patient care for the elderly. This care includes the Alternative Care of the Elderly Programme; a partnership arrangement between the MHW and private sector providers of long-term care for the elderly.
- Care for persons with disabilities is provided at the Albert Cecil Graham Development Centre and the Elayne Scantlebury Centre. These facilities offer assessments and rehabilitation services tailored to individuals with disabilities.
- Pharmaceutical Services are provided by the Barbados Drug Service (BDS), which is responsible for the annual production of the Barbados National Drug Formulary, and the procurement and distribution of the drugs listed in the formulary.
- Laboratory Services – provided by the Best Dos Santos Public Health Laboratory (BDSPHL), which officially opened in January 2018. The facility is an amalgamation of the Public Health Laboratory, the Leptospira Laboratory and the Ladymeade Reference Unit (LRU) Laboratory, with bio-safety level three capacity, improved lab safety and the capability for an enhanced range and quality of tests.
- Environmental Health Services – The Environmental Health Department's role is to reduce morbidity and mortality of diseases related to the environment. Environmental Health Services are delivered through the Environmental Sanitation Unit, the Animal Control Centre, the Vector Control Unit, and the Polyclinic Environmental Health Department.

- Health Promotion Unit – This programme promotes the adoption of a healthy lifestyle and wellness among the population. The Health Promotion Unit, therefore, functions in a supportive role in the various programmatic areas.

Regulatory Services

The MHW continued to perform the dual role of provider of health care services and regulator of the sector. The Medical Council, the Nursing Council, the Pharmacy Council, the Dental Council and the Paramedical Professional Council were each responsible for setting the standards for professional conduct and registration of physicians, dentists, nurses, pharmacists, and allied health professionals respectively.

During the period, the Drug Inspectorate maintained the inspection and licensing programme for pharmacies (public and private) and drug manufacturing plants in keeping with the requirements of the Health Services Act. Similarly, the Environmental Health Officers maintained the inspection and licensing programme for hotels, restaurants, bakeries, supermarkets and hairdressers, in keeping with the requirements set out in the respective regulations of the Health Services Act.

The Advisory and Inspection Committee comprising a Public Health Nurse, an Environmental Health Officer, a Nutrition Officer, and a Drug Inspector was responsible for the inspection, licensing and periodic monitoring of the operations of nursing homes and senior citizens' homes. The Senior Laboratory Technologist similarly headed a team responsible for licensing and providing oversight of the activities of private and public medical laboratories.

The MHW remained focused on creating a transparent approach to health service delivery, improved health service performance, and enhanced system capacity within the current environment. The Ministry is also committed to improving access to services in line with the health reform agenda.

Human Resources for Health

According to the WHO, having a sufficient healthcare workforce is essential for achieving health and other national goals in the coming decades. Effective management of healthcare workers is crucial to delivering quality care, and ensuring the right mix of professionals is key to Barbados reaching its health targets. Barbados primarily trains its own healthcare workers, with doctors graduating from the University of the West Indies (UWI) and nurses and allied health professionals from the Barbados Community College (BCC). In 2023, 86 nurses completed the BCC nursing programme successfully. All healthcare professionals must register with their respective regulatory bodies, such as the Barbados Medical Council for doctors, the Nursing Council of Barbados, and councils for dental, pharmacy, and paramedical professionals, which ensure adherence to professional standards across their fields.

Table 4: Human Resources for 2023

CATEGORY	Number of Workers	Density per 10,000 population	Population per worker
Doctors	677	25.31	395.06
Nurses	1035	38.70	258.41
Psychologists	62	2.32	4,313.81
Occupational Therapist	18	0.67	14,858.67
Dental Technician	5	0.19	53,491.20
Dental Practitioner	88	3.29	3,039.27
Dental Hygienists	20	0.75	13,372.80
Diagnostic Radiographers	32	1.20	8,358.00
Dietitian	7	0.26	38,208.00
Nutritionist	8	0.30	33,432.00
Paramedics	21	0.79	12,736.00
Emergency Medical Technician	127	4.75	2,105.95

Medical laboratory Technologist	120	4.49	2,228.80
Environmental Health Assistant	63	2.36	4,245.33
Environmental Health Officer	63	2.36	4,245.33
Pharmacists	327	12.23	817.91
Physiotherapists	60	2.24	4,457.60
Optometrists	21	0.79	12,736.00

There were about 25 doctors per 10,000 populations (1 doctor per 395) and 38 nurses per 10,000 populations or 1 nurse for every 258 Barbadians (see Table 5). This equates to an average of 1.5 nurses per doctor. Additionally, there were 62 psychologists, which translates to 2.32 per 10,000 people, with each psychologist serving approximately 4,314 individuals.

Health Sector Expenditure

Total estimated health expenditure accounted for 7.5% of total government expenditure for the financial year 2023-2024. Funding for Direction & Policy Formulation Services increased from 4% in 2021-2022 to 9% in 2023-2024, as shown in Table 4. Similarly, funding for Primary Health Care rose from 10% to 17% over the same period. Hospital Services, which accounted for 44% of the budget in 2021-2022, expanded to 52% in 2023-2024. Funding for Care of the Elderly grew from 7% to 10%, reflecting a continued commitment to elderly care amidst changing demographic trends. While funding for the Care of the Disabled was 0.44% in 2023-2024, it underscores the potential for future growth in support of this vulnerable group.

Table 5: Ministry of Health and Wellness budgetary allocations for financial periods Actual Expenditure 2021-2023 and Approved Estimates 2023-2024

Programme Area	2021-2022	%	2022-2023p	%	2023-2024	
Direction & Policy Formulation Services	20,322,271	4.43%	20,484,712	5.85%	32,074,993	9.14%
Primary Health Care	46,469,683	10.12%	48,083,253	13.74%	60,750,884	17.31%
Hospital Services	204,307,239	44.49%	183,340,358	52.39%	182,938,233	52.13%
Care of the Disabled	2,515,165	0.55%	2,583,356	0.74%	1,545,965	0.44%
Pharmaceutical Programme (BDS)	21,250,808	4.63%	23,773,269	6.79%	25,308,704	7.21%

Care of the Elderly	32,976,669	7.18%	33,137,594	9.47%	37,607,301	10.72%
HIV/AIDS Prevention Control Project	5,123,058	1.12%	4,318,231	1.23%	5,828,640	1.66%
Environmental Health Services	3,051,435	0.66%	2,449,248	0.70%	4,856,487	1.38%
Covid -19 Prevention & Control	123,169,167	26.82%	31,812,348	9.09%		
Total	459,185,495		349,982,369		350,911,207	

The Pharmaceutical Programme and HIV/AIDS Prevention Control Project received consistent funding at 7% and 1%, respectively, indicating sustained support for essential pharmaceutical services and HIV/AIDS prevention efforts. Environmental Health Services recorded an increase in allocation in 2023-2024.

The COVID-19 Prevention & Control Programme initially received the highest allocation at 27% in 2021-2022, reflecting urgent pandemic response efforts. However, funding decreased significantly to 9% in subsequent years, signalling a shift towards recovery and long-term management strategies as Barbados navigates the ongoing impacts of the pandemic on public health.

HEALTH POLICIES AND PLANS

The Ministry of Health and Wellness (MHW) has made remarkable strides in 2023 toward strengthening Barbados' health system by developing forward-looking policies, plans and strategies. The MHW remains committed to addressing key priorities within the health sector, such as NCDs prevention and management, strengthening of laboratory services, managing environmental concerns. Through collaboration with key partners, the MHW is aligning efforts to advance these interventions.

Non-Communicable Diseases

The technical meeting on Noncommunicable Diseases (NCDs) and Mental Health in Small Island Developing States (SIDS) was co-hosted by the Government of Barbados, the World Health Organization (WHO), and the Pan American Health Organization (PAHO) on January 17–18, 2023. This technical meeting supported preparation for the Ministerial Conference on NCDs and Mental Health in SIDS. The primary goal was to build political momentum and promote enhanced domestic action and international cooperation regarding NCDs and mental health in SIDS.

The 2023 Small Island Developing States Ministerial Conference which placed focused on NCDs and mental health, was held in Barbados from June 14th to 16th 2023. This event brought together representatives from over 40 island nations and territories, alongside international partners, to address the unique challenges and opportunities in sustainable development for small islands. Countries represented included Barbados, Fiji, Maldives, Mauritius, Jamaica, Seychelles, and others across the Caribbean, Pacific, and Indian Ocean regions. Key topics included climate resilience, sustainable economic growth, renewable energy, and advancing the blue economy. Led by the Ministry of Health and Wellness, the conference highlighted critical health, environmental, and economic priorities, fostering collaborations to bolster Sustainable Development Goals (SDGs) and resilience efforts for island nations.

The country-specific commitments from this meeting focussed on reducing the burden of Non-Communicable Diseases (NCDs) and improving Mental Health. These commitments are integral parts of our local health improvement strategy, encompassing several key initiatives.

- The MHW is in the process of developing a Health National Adaptation Plan (HNAP) for Climate Change and will conduct a survey on Non-Communicable Disease (NCD) risk factors using WHO STEPS methodology.
- Secondly, the MHW is also in the process of creating regulations to classify partially hydrogenated oils and trans-fats as contaminants, with the aim of eliminating them from the food supply by the end of 2025.
- Additionally, the MHW is committed to ensuring that 75% of schools implement the School Nutrition Policy within the next year to promote healthier eating habits among students. Finally, we are enhancing the identification and management of priority mental health conditions in primary care settings to provide better support for mental well-being across our communities.

These initiatives reflect the ongoing efforts to strengthen public health in Barbados through proactive policy and action.

School Nutrition Policy

With technical assistance from PAHO, the MHW spearheaded the consultative process for the development of a National School Nutrition Policy. This initiative culminated in the launched of the policy in February 2023, which is designed to foster healthy eating and active lifestyles among students across all educational levels. Its focus is on creating school environments that promote health and learning through a multisectoral approach, involving the Ministry of Education, Technological and Vocational Training and other stakeholders.

Key elements of the policy include:

1. **Food Services Environment:** Setting nutrition standards for all foods and beverages available in schools and regulating the marketing of unhealthy products.

2. **School Curriculum:** Incorporating mandatory, comprehensive nutrition and physical education.
3. **Physical Activity Environment:** Ensuring that schools provide opportunities for physical activity throughout the school day.
4. **Health and Nutrition Services:** Including annual health assessments and promoting partnerships between schools and health teams.
5. **Health Promotion:** Engaging the broader school community, including teachers, parents, and students, in health and nutrition education.
6. **School Recognition:** Rewarding schools that promote healthy eating and physical activity.

Human Tissue Transplant Bill

Non-communicable diseases presents as one of the main challenges in Barbados' health care system. The trajectory of associated illnesses is also on the increase and requires the exploration of viable treatment options where applicable. Tissue transplantation not only enhances public health and alleviates the socioeconomic impact of organ failure but also boosts patient survival rates and quality of life.

The Human Tissue Transplant Bill was approved by Cabinet in 2023. This Bill makes provision for live, as well as deceased donor transplants; for the removal of tissue including organs, from the body of one person, whether living or deceased, for transplantation into the body of a living person and for related matters. This Bill includes inter alia components relative to: the administration of the process; the donation of tissue by adults and minors; donation of tissue after death; prohibition on trading in human tissue; offences and, the development of regulations. The Bill has to be laid in Parliament to be enacted.

Mental Health Reform

The MHW has commenced a rigorous mental health reform programme, and a number of initiatives have been identified for further action. One such initiative is the integration of mental health services into the polyclinics. This has allowed the Barbados Drug Service to dispense

medications directly to mental health clients at polyclinics and other outpatient clinics. This ensures efficient access to medications without hospital visits.

Additionally, the Ministry is developing a Mental Health Plan and Roadmap, with input from key stakeholders and support from PAHO. This Roadmap aligns the current Mental Health Programme with international best practices and includes steps for policy development, updating of management practices, and partner recruitment. An Operational and Implementation Plan is also being developed and is expected to be finalized by the end of the financial year.

Mental Health Hotline

Between April 1 and July 13, 2023, Barbados recorded an acute increase in the number of suicides (5 deaths in 14 days, 9 deaths total during that period). By comparison, in 2019, the most recent year for which PAHO data are available, the age-standardized death rate for suicide in Barbados was 0.6 per 100,000. This apparent cluster of cases prompted the Ministry of Health and Wellness to commission a rapid working group to review available data and identify potential individual, societal, or health system factors associated with the observed deaths.

The rapid review made recommendations for access to a helpline and other support services. In light of this fact, the MHW has reviewed the existing COVID-19 Hotline and has identified plans to expand the services offered to include the provision of services specifically related to mental health and by extension suicide prevention. It is anticipated that this initiative will serve to complement existing mental health services and reduce the number of suicides in Barbados.

Mental Health Legislation

The initial review of Barbados' Mental Health Act supports the conclusion that the Act is outdated and insufficient and fails to protect the rights of individuals with mental health conditions adequately, and lacks provisions necessary for modern, evidence-based care. In light of these findings, the Ministry is seeking to have the Act repealed and replaced with a new Act, which will meet the needs of the public, while improving the provision of services.

In September 2023, in collaboration with PAHO a number of consultations were conducted with key stakeholders. Stakeholders included senior officials from the MHW, senior officials from the Ministry of Education, Technology and Vocational Training (METVT), United Nations Children's Fund (UNICEF), members of the Mental Health Commission, mental health professionals and representatives of mental health professionals' associations, other professional associations such as the Barbados Nurses Association, civil society organizations including youth advocacy organizations and service users and caregivers. The aim of the consultations was to gather information on the key issues to be addressed in the review process.

All stakeholders agreed that a new mental health law would need to be aligned with the reform of the existing services and be co-terminus with developing a strategy for reform of mental health services from predominantly institutional care to community care, integrated with general health care. The consultation process will be extended into 2024 to include other, ministries, professional bodies and the wider Barbadian public for their input into the process.

Mental Health Literacy Sensitisation Training

In October 2023, the Ministry, along with the METVT, UNICEF, and Pan American Health Organization (PAHO) held mental health literacy training for 30 primary school teachers and principals. The training provided basic knowledge on promoting well-being and mental health in schools. More teachers will be trained next year, and referral protocols between the two Ministries will be established.

Laboratory Services

The Barbados Living Laboratory is a joint effort involving the public and research academia, aiming to become a global centre for research, innovation, and personalised medicine. It will unfold in three phases. Phase 1 focused on improving local laboratory services and training skilled scientists. Phase 2 involves collaborative training programmes with the local Tertiary Learning Hub, while Phase 3 aims to establish industry-supported infrastructure and flexible research

ecosystems, attracting global partners and investors. The Barbados Living Laboratory will be housed in the old Leptospira Laboratory, where refurbishment is currently 95% complete.

Free Pratique

"Free pratique" is permission for aircraft, ships, and other vessels to embark or disembark passengers, and load or unload cargo after arriving. The MHW is upgrading this process from paper-based to electronic. With the new system, Port Health can have information on the health status of passengers and crew before a plane lands. This will improve the customer experience since travellers are eager to disembark quickly. For airlines, faster disembarkation means the aircraft can be serviced sooner, positively impacting turnaround time.

Water Quality

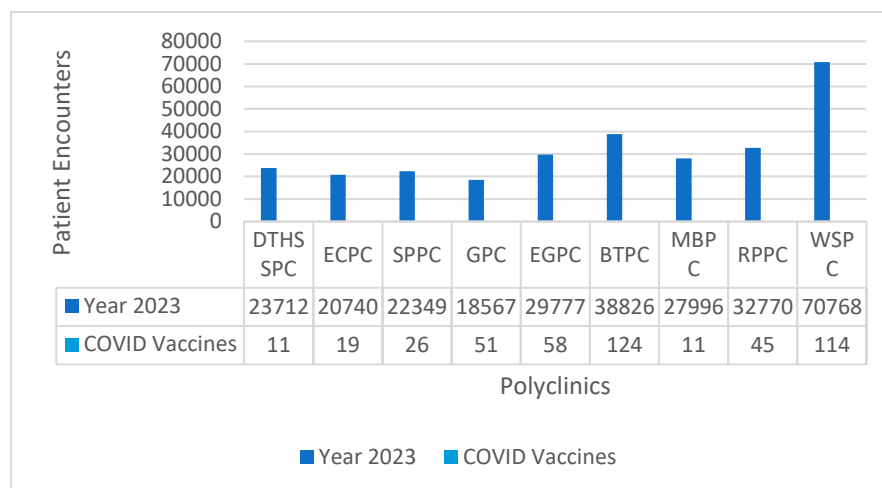
In 2023, the Water Reuse Act was introduced to enable the capture, treatment, and reuse of wastewater for various purposes. The treated non-potable water will be utilised for flushing toilets, cleaning outdoor surfaces, irrigation, maintaining animal habitats, flushing equipment, cooling systems, filling surface ponds or lakes, recharging groundwater, and similar applications. This legislation demonstrates a commitment to sustainable water management practices, encouraging the efficient and responsible use of treated wastewater across different beneficial uses.

COVERAGE AND PERFORMANCE OF HEALTH SERVICES

Primary Care Services (Polyclinics)

The public of Barbados may access primary health care services at nine polyclinics and two out-patient clinics across the island. The Polyclinics serviced a total of 285,505 encounters (visits) for the year 2023 as seen in Figure 2.

Figure 2: *Patient encounters by clinic*



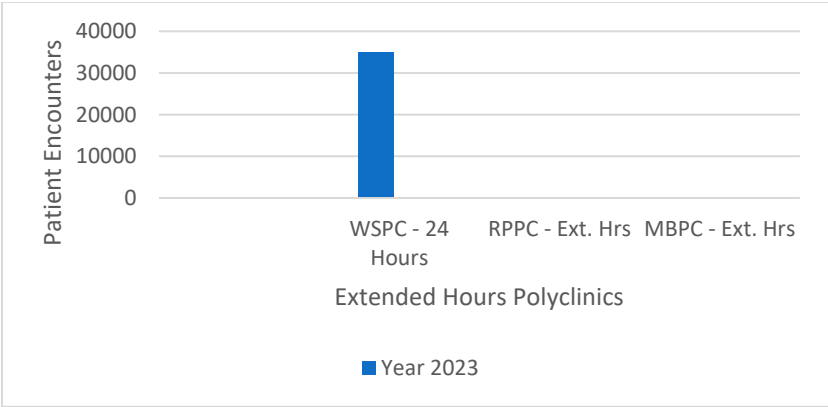
As shown in Figure 2, 459 (0.2%) of encounters were for the administration of the COVID-19 Vaccine. In 2023, there was a general decrease in the utilisation of COVID-19 services.

The polyclinics offered services inclusive of general practice, reproductive health, child health, wound care, women's health, podiatry, physiotherapy, dental health and nutrition counselling. The General Practice (GP) service catered to the clinical management of persons needing medical care. Services ranged from management of persons with NCDs to the issuing of back-to-school certificates for children.

The COVID-19 pandemic had a significant impact on the health care system; however, recovery efforts continued. All core services at all polyclinics have continued or were restarted. Auxiliary clinics and some specialty clinics were also restarted, and in 2023 there continued to be an increase in attendances and demand for Community Mental Health, Speech Therapy and Physiotherapy services. The main service that continues to be affected is Dental Health although there has been some increase in attendances in 2023.

The Extended Hours services at the Maurice Byer and Randal Phillips Polyclinics were suspended in 2020 and this continued through 2023. This explains the absence of patient encounters for the Extended Hours services at the Maurice Byer and Randal Phillips polyclinics in 2023 as shown in Figure 3. The Winston Scott Polyclinic (WSPC) 24hr clinic however, continued to function and provided routine primary care, stabilisation of critically ill patients, NCD support and management of trauma cases. The 24hr clinic accounted for 49% (34,811) of the patient encounters at the WSPC.

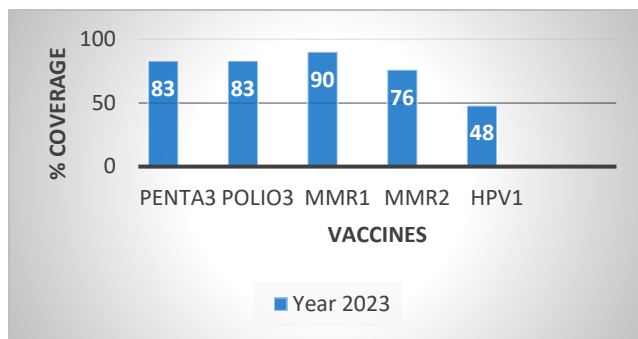
Figure 3: *Patient Encounters in Extended Hours*



Expanded Programme on Immunisation

The MHW continued to offer immunisations against vaccine-preventable diseases to both children and adults in Barbados. No confirmed cases of measles, mumps, rubella, polio, tetanus or pertussis were recorded for 2023.

Figure 4: Vaccine Coverage 2023



Penta3 – diphtheria, tetanus, pertussis, hepatitis B, haemophilus influenza type B

MMR – measles, mumps, rubella

As shown in Figure 4, the vaccine coverage of primary vaccines in 2023 ranged between 76 to 90 percent. Though still below the required 95% coverage target, vaccination coverage in 2023 can be described as dichotomous since for MMR1 and MMR2 there was some continued reversal of the declining trend that was seen from 2019 through 2021, however, for Polio3 and Penta3 the coverage declined as compared with 2022.

A change in guidance and a new policy was approved on November 7, 2022, for a one-dose administration only being required for the 11+ cohort. However, the coverage in 2023 of the first dose of the Human Papillomavirus (HPV) vaccine was similar to that in 2022 at 48%.

Measles

In 2023 coverage for MMR1 was 90% and MMR2 dropped to 76%. As seen in previous years, the second MMR dose never reached the required 95% coverage. At this age, children are away from home at pre-school and school and most mothers are back to work, making immunisation activities

less convenient for parents than it was in the child's first year of life. This has led to a number of children defaulting from this vaccine. Though some improvement was seen in 2023 in the coverages for MMR1 and MMR2 respectively, the ongoing challenges to routine immunisation programmes resulting from the effects and interventions of the COVID-19 Pandemic remain relevant.

The Region of the Americas lost its Measles free certification in 2018 due to the circulation of measles in Venezuela. Barbados still holds its accreditation as a measles-free country and has ensured the sustainability of this certification by implementing interventions to:

- Maintain high quality, elimination-standard surveillance and ensure timely and effective outbreak response measures to any measles or rubella virus importation.
- Achieve high population immunisation coverage against measles and rubella (>95%) in all catchments.
- Improve the quality of vaccination data collection and analysis.

Recovery efforts to restore gains made in previous years and to improve coverage have to continued.

Oral Health

The Children's Clinic, catering to ages 4-18 years, recorded a total attendance of 4,180 visits, with a gender distribution favouring females, who accounted for the majority as seen in Table 6. Among the procedures conducted, 2,140 extractions were performed throughout the year, with peak months being March (91) and July (81). Fillings totalled 2,515 procedures, with significant activity observed in February (229) and March (244).

Preventive maintenance in the form of scaling procedures numbered 2,515, reaching peaks in March (267) and July (306). Fluoride treatments were comparatively low at 132, with the highest numbers occurring in July (18). Similarly, 121 sealant applications were noted, peaking also in July (21). Root canal treatments were infrequent at 6, while emergency prescriptions totalled 124,

with March (23) and July (21) reporting the highest incidences. Completed treatments totalled 124, with November marking the highest completion rates.

In contrast, the Adult Clinic for patients aged 18 years and older saw a total attendance of 2,163 visits, with a balanced gender distribution observed between male and female attendees. Extractions numbered 307, with peak months in March (218) and June (212). Prescriptions issued totalled 307, with spikes noted in March (39), October (36), and November (39).

Observations from the data indicate seasonal trends, with March and July emerging as peak months for dental visits across both clinics. Conversely, December showed a significant decline in clinic visits.

Table 6: Dental Visits for 2023

CLINIC	CHILDREN (4 - 18 YEARS)							ADULTS (18+ YEARS)			
	Atte nda nce	Extrac tions	Filli ngs	PREVENTIVE MAINTENANCE			RO OT CA NAL TX	EM ER- GE NCY RX	ATTEND ANCE	EXTR ACTIO NS	RX
				PRO PHY SCA LE	FLUO RIDE TX	SEAL ANTS					
Jan	188	13	106	121	3	0	0	1	80	73	11
Feb	475	58	229	293	5	0	0	1	198	190	32
Mar	510	91	244	267	7	0	1	23	208	218	39
April	343	42	258	194	5	8	0	2	79	79	11
May	429	54	253	195	5	3	1	15	185	185	25
June	453	49	239	287	4	6	1	9	243	212	37
July	479	81	238	306	18	21	0	21	163	123	28

August	242	46	137	177	16	13	0	3	249	246	31
Sept	257	74	127	175	22	20	0	8	163	178	18
Oct	370	74	146	242	17	4	1	17	280	274	36
Nov	374	65	164	219	22	44	2	22	281	249	39
Dec	60	10	19	39	8	2	0	2	37	52	0
TOTAL	418 0	657	214 0	2515	132	121	6	124	2163	2079	307

National Nutrition Centre

During the review period, the National Nutrition Centre (NNC) continued to provide nutrition services for the public of Barbados. This included the provision of community nutrition services within the polyclinic setting and surrounding communities, as well as technical support for government and non-governmental organisations. The NNC also continued to support nutrition policy implementation initiatives, following the launch of the Barbados School Nutrition Policy by the Ministry of Education, Technical and Vocational Training, on February 15, 2023.

Initiatives included school sensitisation to policy recommendations, technical assistance for other educational programmes, and professional support to the School Meals Department. During the year, the department also sought to extend its nutrition policy work beyond the school environment and embarked upon the development of a National Nutrition Policy. Technical support was provided by the Pan American Health Organization for this initiative, with contributions from key stakeholders. A draft document is currently available and is under review.

Community Nutrition Services

Community nutrition services continued to be provided across Barbados. Services included individual nutrition counselling, and group education within the polyclinic setting. Professional support was also provided to government and non-governmental organisations, as well as to

community groups. Nutrition counselling services totalled two thousand seven hundred and fourteen (2,714). Forty (40) presentations were provided to in-clinic and community groups. Table 7 provides a breakdown of the nutrition counselling services provided.

Table 7: Nutrition Counselling Services

Disease/Condition	FV		RV		Total
	M	F	M	F	M/F
DM	22	55	31	41	149
DM/HTN	36	106	31	49	222
DM/HTN/HCL	11	102	6	74	193
DM/Obese/Overweight (Owt.)	16	48	3	34	101
DM/HTN/Obese	27	107	15	92	241
DM/Obese/HCL	15	14	6	9	44
DM/HTN/Obese/HCL	36	147	33	107	323
DM/HCL	5	22	1	14	42
HTN	15	85	12	35	147
HTN/HCL	26	45	20	36	127
HTN/HCL/Obese	25	154	19	59	257
HCL/Obese/Owt.	23	132	14	89	258
HCL	20	41	6	32	99
HCL/Obese	10	29	4	27	70
Obese/Owt.	48	38	34	29	149
Other	20	35	7	28	90
0 – 5 years Underweight	10	35	12	32	89
0 – 5 years Obese/Owt.	9	7	9	3	28
0 – 5 years Other	2	7	1	5	15

5 – 19 years Underweight	8	2	3	2	15
5 – 19 Obese/Owt.	12	14	6	11	43
5-19 Other	5	3	2	2	12
Total	401	1227	272	794	2714

Key

DM	Diabetes Mellitus
HTN	Hypertension
HCL	Hypercholesterolemia
OWT	Overweight

Nutrition Surveillance 0–5-Year-olds

Community Health Aides assigned in this area performed duties in the public health clinics, but surveillance of the 0–5-year-old population could not be facilitated, due to a lack of computer software. Due to this challenge, a decision was made to seek technical assistance, to facilitate a needs assessment with the view to having the programme evaluated and solutions identified for implementation.

Nutrition Month

In collaboration with other local nutrition professionals, the NNC hosted several activities during the month of March, to celebrate Nutrition Month. During this period, nutrition professionals and partners across government and non-governmental agencies, embarked upon initiatives directed at creating awareness of the role good nutrition and healthy lifestyles play, in optimising health and wellbeing. The theme for the month was “Creating Healthy Food Environments”. Major initiatives for the period included a nutrition conference and launch of the new NNC website.

Student Internships/Practicums

During the June to August period, NNC offered direct and indirect assistance to facilitate internships/practicums for six (6) university level students, from the University of the Southern Caribbean, and The University of the West Indies.

Calorie Counter Initiative

During this year, efforts were initiated to produce a database of culturally relevant foods for use in the development of a Calorie Counter App for public access. By the end of the year, App developers were consulted, to identify a framework that could meet the established requirements. In addition to this work, discussions also commenced with the National Cultural Foundation, with the view to collaborate on developing a nutrition programme, focused on teaching the public healthier methods for preparing culturally relevant foods.

Research

The NNC partnered with the George Alleyne Chronic Disease Research Centre (GA-CDRC), with the view to provide technical nutrition support in a research study aimed at assessing childhood obesity. During this year, staff attended local and overseas training, in preparation to commence the study in 2024.

Care of the Disabled

Elayne Scantlebury Centre

The Elayne Scantlebury Centre continues to provide long-term residential care for twenty-four (24) residents with a current complement of twenty-one (21) after the death of two patients (one male and one female) in 2023. The clients were diagnosed with Cognitive Dysfunction such as Intellectual Disabilities, Hydrocephalus, Down Syndrome, and Cerebral Palsy which involves problems with general mental abilities that affect functioning in two areas: intellectual functioning

such as learning, problem-solving, and judgment; and adaptive functioning which involves activities of daily living. Additionally, these patients were also diagnosed on the autistic spectrum with hyperactivity, perception, and communication issues as well as those with mild behavioural issues related to sub-normal functioning. The residents also have varying medical conditions and NCDs such as Hypertension, Diabetes, Epilepsy, Gastro-oesophageal Reflux Disease, Cataracts, and Glaucoma as seen in Table 8.

Table 8: Diagnoses of patients at the Elayne Scantlebury Centre 2022-2023

DIAGNOSIS	2022	2023
Cerebral Palsy	02	02
Down Syndrome	03	02
Autism	02	03
Hydrocephalus	01	01
Mental Sub-normality	20	18
Talipes Equinovarus	01	01
Epilepsy	04	04
Psychoses	03	03
Childhood Meningitis	02	02
Dementia	01	01
Cataract	01	01
Glaucoma	01	01
Visual Impairment	01	02
Self-Mutilation	01	01

The patients for the most part over the years in review, experienced a great majority of infections associated with upper respiratory tract, ear infections, viral conjunctivitis, and skin infections as well as two periods of COVID-19 infection.

The Elayne Scantlebury Centre currently can house 24 patients, and this was consistent from 2022 to 2023. In 2022, three patients continued to benefit from Occupational Therapy which petered off approaching the end of the year due to departmental constraints. A rehabilitation therapy chart was compiled for the Centre, for in-house activity to be conducted by the nursing staff.

Albert Cecil Graham Development Centre (ACGDC)

The Albert Cecil Graham Development Centre is a multi-disciplinary facility which caters to the needs of persons with disabilities, who are physically, mentally and intellectually challenged. The delivery of services is focused on creating supportive environments and the empowerment of persons with disabilities. All services are offered free at the point of delivery to citizens of Barbados who are physically and psychologically challenged. By the end of the year 2023, there were five thousand, nine hundred and seventy-two (5,972) registered patients. Patients medically reviewed for the same period were one thousand and sixty-one (1,061). The ages ranged from under 1 through sixteen years old as seen in Table 9.

Table 9: Age distribution of new patients seen during the year 2023

AGE (yrs.)	MALE	FEMALE	TOTAL	%
UNDER 1	8	2	10	5.8
1-4	74	23	97	56.0
5-8	31	15	46	26.6
9-12	16	3	19	11.0
13-16	1	0	1	0.6

>17	0	0	0	0
TOTAL	130	43	173	100%

The largest age group represented is 1-4 years, with 74 males and 23 females, totalling 97 individuals and comprising 56% of the population at Albert Cecil Graham Development Centre. The next largest group, ages 5-8, includes 46 individuals (31 males and 15 females), making up 26.6% of the group as seen in Table 9. The "Under 1" age group has 10 individuals (8 males and 2 females), representing 5.8% of the population. In the 9-12 age range, there are 16 males and 3 females, totalling 19 individuals and accounting for 11% of the population. The male-to-female ratio at the ACGDC is approximately 3:1.

Table 10: Referrals to the Albert Cecil Graham Development Centre in the Last Five Years.

Referrals	2019	2020	2021	2022	2023
Number seen	132	130	132	173	189
Total number referred	147	167	203	213	262
Percentage	90	77.8	65	81	72

Table 10 shows a gradual increase in the number of children being referred to the Centre over the years. Clients are referred to the Centre from several sources including, the Paediatric Out-Patient Department of the Queen Elizabeth Hospital, medical practitioners both private and from the polyclinics, the Ministry of Education Technological and Vocational Training, the Child Care Board as well as social service and other professional agencies.

The multi-disciplinary approach to treatment involved evaluations by a team of specialists, including a paediatrician, audiologist, speech therapist, physiotherapist, occupational therapist, and psychologist. However, after the initial evaluation, there was a lengthy wait for treatment in the Speech Therapy department. This can be attributed to the speech language pathologist being the only speech therapist assigned to the Ministry of Health and Wellness, and having to provide service to other institutions in the Ministry of Health and Wellness.

Speech/language services are facilitated at the Branford Taitt Polyclinic (BTPC), Maurice Byer Polyclinic (MBPC), the Queen Elizabeth Hospital (QEH) and the Geriatric Hospital as needed. There were forty-two (42) visits to BTPC, ten (10) to MBPC and two (2) to the Geriatric Hospital this year.

Scotiabank, through The Variety Club, funded a Rehabilitation Therapy Technician (RTT) for six hours a day, three days a week in the Speech Therapy Department. This programme started on October 2nd, 2023, and continued through the remainder of the year. The RTT under the supervision of the Speech Language Pathologist provided speech/language therapy for an average of twenty (20) children in the department each week. This resulted in an increase in the number of appointments for the last few months of the year.

Autism continued to be the primary diagnosis of children referred for speech/language therapy. Children on the autistic spectrum often require several years of intervention and the earlier the intervention the better for the child. However, with the department's waiting list, children have to wait several years before initiating therapy. The department is under great pressure to provide earlier intervention, more intense therapy and therapy for longer periods of time.

At the end of the year 2023, the waiting list for this department was four hundred and seven (407) patients. Of note, the Cochlear Implant Clinic and the annual Wheelchair Clinic were held in the Audiology and Physiotherapy departments in July and August respectively; both sponsored by the

Sandy Lane Charitable Trust. Clients benefitted from cochlear implants and the provision of other hearing devices as well as wheelchair repairs and wheelchairs.

Psychiatric Hospital

The hospital's bed capacity in 2023 was 534 beds, distributed across seven service groupings, as shown in Table 11. This is a slight decrease from the 540 beds available in 2022. The Psychogeriatric wards made up the largest share of beds at 47.75%, followed by Forensic Care with 14.98%, and Acute Care with 13.30%. Male patients continued to dominate the in-patient population, occupying 70% of the beds, while females accounted for 30%. This pattern is consistent with the 2023 admission trends, where male admissions were significantly higher than female admissions, with 606 men admitted compared to 295 women.

Table 11: Patient Population by Bed Count and Gender 2023

Ward/Unit	Total	Male	Female	% of Total Bed Count
Acute Care	71	44	30	13.30%
Forensic	80	84	0	14.98%
Intellectual Disability	54	46	8	10.11%
Rehab (Internal)	12	12	0	2.25%
Child & Adolescent	16	8	8	3.00%
Medical Units	46	26	20	8.61

Psycho-geriatric	255	186	114	47.75%
Totals	534	403	176	100.00%

Patient Admissions and Discharges

New admissions recorded in 2022 were 901. Of these, 245 were new (first-time) admissions, accounting for 27.19% of the total. Voluntary admissions include adults who admit themselves to the hospital of their own will, as well as children (under 18 years old) admitted by their parents or guardians. In 2023, there were 237 voluntary admissions, representing 26.30% of the total admissions. This is a decrease from 253 admissions (28.08%) in 2022.

Involuntary admissions include individuals admitted through a hospital order (remanded by the court), emergency order (admitted by a mental health officer for a 72-hour stay), or medically recommended (referred by a medical practitioner). In 2023, involuntary admissions totalled 664, making up 73.70% of all admissions, an increase from 648 (71.92%) in 2022. The breakdown of involuntary admissions in 2023 are shown in Table 12.

Emergency orders continued to account for the highest proportion of involuntary admissions at 76.20%, consistent with the 76.23% recorded in 2022.

Table 12: Involuntary Admissions 2022-2023

MR Admissions	EO Admissions	HO Admissions
2023	2023	2023

94	14.16%	506	76.20%	64	9.64%
2022		2022		2022	
103	15.90%	494	76.23%	51	9.88%

The average length of stay increased from 167 days in 2022 to 192 days in 2023, indicating that patients are staying in the hospital for longer periods. Despite a rise in total patient days from 177,967 to 179,613, the average daily census decreased from 510 to 492, and the average percentage of occupancy fell slightly from 94% to 92%. This suggests a reduction in the average patient load despite an increase in the total number of patient days. The maximum and minimum daily counts showed slight increases from 2022 to 2023, reflecting some variability in patient load throughout the year.

The total number of discharges and deaths increased from 900 in 2022 to 919 in 2023. Voluntary discharges rose from 570 to 577, while medically recommended discharges decreased from 275 to 258. Discharges under hospital orders and emergency orders both rose, from 51 to 66 and from 7 to 16, respectively. This could indicate changes in patient management or discharge policies. The number of deaths increased from 17 in 2022 to 23 in 2023, which may be attributed to the severity of cases or other factors affecting patient outcomes. The total days of care provided to discharged patients also grew, from 150,199 in 2022 to 176,463 in 2023 as seen in Table 13.

Table 13: Patient Admissions and Discharges 2022-2023

	2022	2023
TOTAL PATIENTS ADMITTED	901	901
First Admissions	257	245
Re-admissions	644	656
Special Warrant	0	0
TOTAL DISCHARGES AND DEATHS	900	919
Type of Discharge or Death:		
Certified	0	0
Voluntary	570	577
Medically Recommended	275	258
Hospital Order	51	66
Emergency Order	7	16
Special Warrant	0	2
TOTAL DEATHS	17	23

Total days of care to patients discharged	150199	176463
Average Length of stay days	167	192

Patient Clinical Diagnosis

On admission to the hospital, all patients must undergo a comprehensive assessment by the medical and nursing team to ensure an accurate and complete understanding of their mental health status and diagnosis. Patient diagnoses are classified upon discharge to appropriately reflect their condition, ensuring continuity of care as they transition back to the community and continue their treatment as outpatients. Additionally, co-morbid diagnoses are recorded to indicate the severity of each patient's condition.

In 2022, a total of 1,142 diagnoses were recorded, with 783 male (68.54%) and 359 female (31.46%) patients. By 2023, this number dropped to 991 diagnoses, with 637 males (64.29%) and 354 females (35.71%) as seen in Table 14. Although the overall number of diagnoses decreased, the proportion of female cases saw a slight increase.

There were 158 psychotic disorder cases in 2022 and 159 in 2023. Schizophrenia diagnoses declined from 362 in 2022 to 329 in 2023, with male cases seeing a more significant reduction than female cases. Intellectual disability diagnoses also dropped, with a notable decrease among male patients. Schizoaffective disorder cases fell from 102 in 2022 to 88 in 2023, again with a larger drop in male cases.

Major depressive disorder diagnoses saw a sharp decline, from 32 cases in 2022 to only 12 in 2023, affecting both males and females. Conversely, suicide risk cases increased from 43 in 2022 to 51 in 2023, particularly among males. Bipolar disorder cases decreased slightly, with both male and

female cases falling. Conduct disorder, which had 93 cases in 2022, dropped significantly to 44 cases in 2023, predominantly among male patients.

Personality disorder cases also saw a reduction, especially among males, with the total falling from 34 cases in 2022 to 19 in 2023. New diagnostic categories appeared in 2023, including anxiety disorder, borderline personality disorder, and wandering, while drug overdose cases decreased. Overall, there was a significant decline in the total number of mental health diagnoses between 2022 and 2023, particularly in schizophrenia, intellectual disability, and conduct disorder. Male patients continued to represent the majority of diagnoses, though the gap between male and female cases narrowed slightly. The rise in suicide risk and attempt cases in 2023 is a concerning trend, suggesting that mental health challenges remain critical, especially among males.

Table 14: Patient Diagnoses by Mental Disorder 2022 -2023

Disorder Type	2022			2023		
	Male	Female	Total	Male	Female	Total
Psychotic Disorder	127	31	158	110	49	159
Schizophrenia	260	102	362	218	111	329
Intellectual Disability	78	21	99	45	21	66
Schizoaffective Disorder	68	34	102	53	35	88
Schizophreniform	4	3	7	3	1	4
Major Depressive	13	19	32	3	9	12

Suicide Risk/Attempt	21	22	43	28	23	51
Poisoning/Drug Overdose	5	0	5	0	1	1
Non-Fatal Self-Harm	0	2	2	0	2	2
Homicide Risk	0	1	1	0	0	0
Bipolar	24	46	70	24	37	61
Neurocognitive Disorder/Dementia	10	9	19	13	5	18
Delusional Disorder	12	0	12	15	0	15
Conduct Disorder	80	13	93	35	9	44
Adjustment Disorder	2	8	10	13	4	17
Autism	7	1	8	3	1	4
ADHD	2	3	5	3	1	4
Opposition Defiant Disorder	0	1	1	2	2	4
Antisocial Personality Disorder (PD)	22	5	27	20	0	20
Other Personality Disorders	15	19	34	5	14	19

Mood Disorder	4	0	4	11	4	15
Personality Disorder Traits	0	3	3	0	0	0
Psychosocial Stressors	29	9	38	11	8	19
Post-Traumatic Stress Disorder	0	7	7	2	3	5
Total	783	359	1142	637	354	991

Child and Adolescent Mental Health Clinic (CAMHC) Services

The CAMHC provides out-patient psycho-social treatment and support to children aged 3 to 17 years old. The number of visits varied significantly throughout the year. The highest number of visits occurred in February with 87, while the lowest was in June with 26.

Visits for children under 10 years old fluctuated, peaking in February with 45 visits and a low in June with 16 visits as seen in Table 15. For the 11-17 age group, visits were highest in February at 40 and lowest in June at 9. In terms of gender, male visits showed considerable variation, with peaks in February (24 visits) and August (32 visits) and lows in April (5 visits) and June (5 visits). Female visits, on the other hand, were more consistent, with peaks in August (27 visits) and November (35 visits) and a low in June (10 visits). The total number of visits for the year was 728, with males accounting for 409 visits and females 319 visits. It is worth noting that the sum of male and female visits often does not align perfectly with the overall monthly totals, suggesting possible discrepancies or missing data in the individual categories.

Table 15: CAMHC Visits 2023

Month	Age Category	Males	Total Males	Females	Total Females	Overall Totals		
						<10yrs	11-17yrs	Monthly Totals
January	<10 years	23	47	12	38	35		85
	11-17 years	24		26			50	
February	<10 years	18	45	2	42	20		87
	11-17 years	27		40			67	
March	<10 years	15	50	4	30	19		80
	11-17 years	35		26			61	
April	<10 years	5	12	3	18	8		30
	11-17 years	7		15			22	
May	<10 years	12	22	4	19	16		41
	11-17 years	10		15			25	
June	<10 years	5	16	1	10	6		26
	11-17 years	11		9			20	
July	<10 years	12	30	3	14	15		44
	11-17 years	18		11			29	
August	<10 years	18	50	3	27	21		

	11-17 years	32		24			56	77
September	<10 years	15	27	6	26	21		
	11-17 years	12		20			32	53
October	<10 years	14	35	3	21	17		
	11-17 years	21		18			39	56
November	<10 years	7	33	4	39	11		
	11-17 years	26		35			61	72
December	<10 years	15	42	5	35	20		
	11-17 years	27		30			57	77
Totals			409		319	209	519	728

Community Mental Health Services (CMHS)

Table 16 summarizes the Home Visits conducted by Community Mental Health Services (CMHS) in 2023. A total of 6,850 visits were recorded, comprising 2,983 new referrals and 3,867 revisits. The data reveals a consistent demand for follow-up care and higher utilisation by females. Monthly visits ranged from a peak of 626 in March to a low of 437 in September. Notably, the year saw steady activity, with high visit numbers in the first half, peaking again mid-year in June, and tapering slightly towards the end of the year. This trend underscores the sustained need for mental health support throughout the year.

Table 16: CMHS - Home Visits 2023

Month		HOME VISITS								
	New Referrals		1st Visit for Year (Total Patients)		Revisits				Total Visits	
					1st for Month		All Other Visits			
	M	F	M	F	M	F	M	F	M	F
January	3	2	194	293	0	0	59	69	256	364
February	3	7	4	6	183	261	52	62	242	336
March	3	7	1	6	174	281	78	76	256	370
April	4	3	2	0	188	266	67	58	261	327
May	6	4	6	3	166	241	78	78	256	326
June	5	4	3	1	187	254	88	82	283	341
July	4	11	2	2	200	244	49	48	255	305
August	3	2	1	2	163	243	75	72	242	319
September	6	2	1	1	107	227	52	41	166	271
October	2	2	7	9	203	260	68	56	280	327
November	2	5	1	4	188	230	62	58	253	297
December	3	1	0	0	179	234	51	49	233	284
Total	44	50	222	327	1938	2741	779	749	2983	3867

Mental Health Clinic Visits

In 2023, the Mental Health Clinic saw fluctuating monthly visits. January had 208 visits, with 61 new referrals and 183 revisits as seen in Table 17. By June, visits peaked at 542, including 121 new referrals. August recorded the highest at 629 visits, with 97 new referrals. September through November showed increasing visits, peaking at 758 in November. December had 770 visits, with 65 new referrals. Overall, the clinic had 2,628 visits, with a notable predominance of female

patients. The data highlights a consistent demand for services, with a significant increase in revisits throughout the year.

Table 17: CMHS Mental Health Clinic Visits 2023

Mental Health Clinic											No. of Patients seen
	New Referrals		1st visit for Year		1st for Month		Revisits		Total Visits		
	M	F	M	F	M	F	M	F	M	F	
January	5	13	48	142	0	0	8	28	61	183	208
February	18	22	11	37	33	104	10	34	72	197	296
March	7	21	2	26	57	127	10	30	76	204	352
April	6	18	4	8	67	155	7	12	84	193	388
May	16	33	6	14	50	139	17	37	89	223	457
June	21	44	10	10	68	160	22	53	121	267	542
July	12	21	1	5	54	158	12	39	79	223	581
August	14	21	2	11	57	167	24	38	97	237	629
September	11	22	2	7	67	176	10	46	90	251	671
October	11	23	3	7	54	187	7	49	75	266	715
November	13	26	0	4	75	161	20	34	108	225	758
December	6	4	1	1	46	139	12	15	65	159	770
Total	140	268	90	272	628	1673	159	415	1017	2628	

Non-Communicable Diseases

During the period Barbados continued implementation of the regional and international goals for combatting of Non-Communicable Diseases. NCDs still account for eight of the top ten causes of death locally. One in three Barbadian adults has at least one chronic disease. With the causes of NCDs being many and complex, it is clear that urgent actions taken need to be coordinated and strategic. We continue to make progress in addressing the four common modifiable risk factors, namely: inadequate physical activity, poor nutrition, use of tobacco products, and the harmful use of alcohol.

There have been strategic commitments and progress during the past year promoting higher levels of individual responsibility as well as additional policy action for the creation of a more supportive environment for prevention and control of NCDs. The work of the National NCD Commission continued to advance implementation around NCDs by advising on factors across all sectors of government and the wider society, including the built environment, economics, education, legislation, and marketing which significantly influence the determinants of NCDs. The Declaration of Mission Barbados documented the tripartite commitment to acknowledge and address the burden of NCDs on wellbeing.

On the government side, there is a need for improving NCDs and their risk factors in children. In line with this the Barbados School Nutrition Policy was approved by the Cabinet. The policy seeks to address the growing epidemic of obese children and adolescents by “creating healthy school environments that enhance student learning and are conducive to the development of healthy lifelong eating and activity behaviours through a multi-sectoral and integrated approach. The MHW continued to work with Ministry of Education Technical and Vocational Training and civil society to support implementation across the physical environment. Further work remains in advancing integration into the curriculum and the wider context of marketing to children.

The World Health Organization has remained a key partner supporting work on cancer screening and in co-hosting NCD meeting in recognition of the high burden of NCDs and the impact of

climate and COVID-19 on health and economies in Small Island Developing States (SIDS). The SIDS Ministerial Conference on NCDs and Mental Health which was held in Bridgetown, Barbados focused on the need for Small Island Developing States (SIDS) to urgently address the linked challenges of noncommunicable diseases (NCDs), mental health, and climate change. It empathized the size and lack of progress in SIDS in slowing the impact of NCDs on economic and social realities, vulnerability of SIDS to NCDs, climate change and reliance on imports. It also highlighted the need to implement evidence-based interventions including those in the WHO Best Buys.

Table 18 highlights the monthly referral trends to the Barbados Diabetes Foundation in 2023. Referrals fluctuated throughout the year, peaking in May with 38 referrals. March and November also recorded relatively high numbers, with 32 and 30 referrals, respectively, before declining to 21 in December. These figures reflect the varying demand for diabetes-related services over the year.

Table 18: Barbados Diabetes Foundation Referrals 2023

January	February	March	April	May	June	July	August	September	October	November	December
19	23	32	24	38	21	25	21	20	23	30	21

Additionally, the Ministry has been actively reviewing the taxation of Sugar-Sweetened Beverages (SSBs) as part of its efforts to address the growing burden of Non-Communicable Diseases (NCDs). Resource mobilization remains a critical priority, given the significant health and economic impacts of NCDs. Current levels of "sin taxes" on SSBs in Barbados are below the thresholds recommended by the WHO and leading academic studies, presenting an opportunity to increase these taxes.

Raising taxes on SSBs can serve a dual purpose: influencing healthier behaviour, particularly among vulnerable populations, and generating revenue. A portion of this revenue can be strategically allocated to health initiatives such as education campaigns and programmes that promote healthier lifestyle choices.

To inform this approach, the evaluation committee, which previously demonstrated the impact of the 10% SSB tax, has been reconvened to assess the outcomes of a proposed 20% tax. This evidence-based evaluation will guide decisions aimed at maximizing both public health benefits and economic gains.

Health Promotion

Health Promotion focuses on enabling individuals and communities, to increase control over and improve their health. The strategies used include education and communication, engaging communities, creating supportive environments, and partnering with non-health sectors, to improve knowledge, skills, attitudes, and behaviour.

At the beginning of the year, the Health Promotion Unit in collaboration with PAHO, coordinated activities at the two Small Island Developing States (SIDS) High-Level Meetings held in Barbados on NCDs and Mental Health. The Unit facilitated the health-focused physical activity breaks, healthy menus for the break-times and the NCD ‘Walk the Talk’ (after-event activity) for all participants at the meeting. The HPU also presented on the ‘Barbados Moves’ Physical Activity Interventions at one of the side meetings of the technical meeting.

In light of the reported inadequate amounts of physical activity in the last local risk factor survey, the Health Promotion Unit continues to facilitate the promotion of regular or increased physical activity as one of the ways to reduce the risk of NCDs in Barbados. In 2023, the Unit supported the National task Force on Wellness in the production and erecting of six ‘Get Moving Barbados’ billboards across the island. The billboards were placed along ABC Highway; the Mighty Grynner

Highway; Highway 2A and on Browne's Beach, Brighton Beach and Miami Beach. The artwork included images of people performing various types of physical activity.

During the calendar year 2023, the Health Promotion Unit assisted the National Vaccine Committee, with the support of Pan American Health Organization (PAHO) and the Centers for Disease Prevention and Control (CDC), with planning and executing a vaccine demand generation campaign. This health promotion campaign was planned to promote the uptake of all vaccines in Barbados in light of the negative impact on vaccine uptake due to the COVID infodemic. Included in this campaign was the production of messages by influencers in the entertainment, industry created to build trust and encourage parents to make sure their children were up to date with their childhood vaccines. The tag line for the ads was *Restoring Confidence in Choices that Make a Difference* and it carried the #Getuptodate.

In celebration of World Health Day 2023, the Health Promotion Unit facilitated the Ministry's participation in a World Health Day Cook-Off involving participants from Ministry of Health and Wellness, the Pan American Health Organization and secondary school students. The event was coordinated by the Ashley Lashley Foundation and hosted by Cook Caribbean. The contestants were asked to prepare a healthy meal using a locally grown, drought-tolerant crop as the main ingredient. The Ministry's representative also participated in a short interview for social media in which they had to give a message on 'Attaining climate-smart food security, inclusivity and Health for All'. The event was shared on social media a press release and the video were prepared for release on World Health Day. The HPU also prepared a full-page ad to celebrate World Health Day and the 75th Anniversary of WHO, highlighting public health successes in Barbados over the last 7 decades. This will be published in the Nation, Advocate and Barbados Today as well as on our social media pages on World Health Day.

Each year, the Health Promotion Unit conducts activities to highlight the importance of hand hygiene in protecting both the health care provider and the patient. In celebration of World Hand Hygiene Day 2023, the Unit partnered with PAHO/WHO to share international health promotion

messages via social media and print media. We also partnered with the Caribbean Broadcasting Corporation to have officers from the Environmental Health Department and the Queen Elizabeth Hospital speak on the theme on the morning television shows. The officers shared information on the importance of preventing food contamination and associated outbreaks, as well as preventing hospital infections and associated outbreaks. The recordings were aired throughout the day.

It is well known that Anti-microbial Resistance (AMR) threatens human and animal welfare as well as the environment and economic development. In recognition of this fact, the Ministry of Health and Wellness, through the Health Promotion Unit carried out several activities during Anti-microbial Awareness Week 2023. We were able to produce and share a video recording for television with the three Government Officers representing human, plant and animal health, speaking on the topic. We were also able to share a number of AMR infographics from PAHO on our social media pages and on the Government Information Service' pages. The HPU also facilitated the production of a Public Service Announcement in the form of a skit. This dramatisation involved a pharmacist speaking to a client about how the misuse and abuse of antibiotics can lead to the development of AMR. This video was distributed on social media and television.

In 2023, the HPU started a project with the Ministry of Education, Technology and Vocational Training to coordinate the creation of colourful, mentally stimulating spaces prepared for guided physical activity at four primary schools. This activity is one of the PAHO Biennial Work Programme projects to encourage increased physical activity in children aged 4-11. The four schools (St. Albans Primary, Workmans Primary, St. Martins Mangrove Primary and Charles F. Broome Primary) were visited between June and July. Locations for the obstacle courses and billboards and the designs for these were discussed with the principals. Work was completed at two schools so far and will continue in 2024.

During the month of October (Dental Health Month), in response to the concern of the Barbados Dental Council about the recent increase in children being seen with dental caries, the Health

Promotion Unit partnered with the Dental Council, the Barbados Government Information Service and a private producer to run a short campaign entitled “A smile without Cavities”. The activities for the month and beyond included the production and airing of a jingle, a video and voice overs on the theme *a smile without cavities*.

HIV and Other Sexually Transmitted Infections

HIV remains a challenge in Barbados, with an estimated 1.0% of adults in Barbados living with this chronic disease at the end of 2023.¹ The epidemic started in 1984, and from the start, there was an immediate response by health authorities to prevent HIV transmission, identify new cases and manage those who were ill due to HIV. Table 19 reflects the cumulative figures from the outset of the epidemic in Barbados, with 4,841 HIV cases and 2,206 HIV deaths. The median age for HIV diagnosis in Barbados in 2023 was 32 years as seen in Table 20.

Table 19: Cumulative number of HIV cases, AIDS cases, and deaths among HIV persons by sex, 1984 – 2023

Sex	HIV Cases		AIDS Cases		HIV Deaths	
Male	3,073	63.5%	1,958	66.6%	1,550	70.3%
Female	1,768	36.5%	983	33.4%	656	29.7%
Total	4,841		2,941		2,206	

Table 20: HIV Cases by age group and sex, 2023

Age Group	Male	Female	Total	
			n	%
10 - 19	4	2	3	2.3%
20 - 29	31	14	28	21.2%
30 - 39	17	11	31	23.5%
40 - 49	14	13	16	12.1%
50 - 59	10	5	9	6.8%
60 - 69	5	3	8	6.1%

¹ Source: UNAIDS Spectrum Country Estimates

70+	2	1	2	1.5%
Total	83	49	132	100%
Median Age (years) at HIV diagnosis	32.0	37.1	32.0	
Median CD4 at diagnosis	217	347.5	272	

Source: Surveillance Database 2023

Modes of HIV Transmission in Barbados

HIV transmission is almost exclusively sexual in Barbados. Blood donations and blood products are universally screened for HIV along with other blood-borne pathogens, and vertical transmission (from mother to child) remains at a rate that is less than 2%. To date there have been no known cases of HIV transmission through the sharing of needles among injecting drug users. The HIV prevalence among female sex workers is also believed to be higher than in the general population.

Combination HIV Prevention

The prevention programme aimed to reduce individuals' risk of transmission of HIV and STIs through education, distribution of condoms, provision of pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) and testing for HIV and STIs. HIV testing is also a major aspect of the prevention programme, as it facilitates the entry of persons living with HIV (PLHIV) into all services provided by the HIV/STI programme. Priority populations who are at higher risk of HIV include men and men who have sex with men, sex workers and transgendered individuals. Health promotion and education efforts targeted at reducing the spread of HIV, STIs and viral hepatitis are ongoing.

Barbados implements a policy of offering Pre-Exposure Prophylaxis (PrEP) to anyone in Barbados deemed to be at substantial risk for HIV, as part of the package of comprehensive HIV and STI prevention and treatment services. PrEP has been offered at the Ladymeade Reference Unit and Equals Inc. since 2018 and 2019 respectively, with the provision of this service expanded to the

St Phillip Polyclinic and the Barbados Family Planning Association in 2022. In 2023, thirty-two (32) persons initiated PrEP while a total of ninety (90) persons received PrEP at least once as seen in Table 21. The majority of those on PrEP in 2023 were males.

Table 21: Number of persons receiving PrEP at least once in 2023 by sex

Age Group	Males	Females	Total	Number of people initiating PrEP in 2023
<15	0	0	0	0
15-19	0	0	0	0
20-24	11	3	14	8
25-49	65	5	70	23
50+	6	0	6	1
Total	82	8	90	32

Source: PrEP Database 2023

The UNAIDS 95-95-95 HIV targets

In tandem with many countries, Barbados has expressed its commitment to achieving the UNAIDS 95-95-95 targets by 2030. These targets state that by the end of 2030, 95% of PLHIV will know their status, 95% of those diagnosed with HIV infection will receive treatment and 95% of all people receiving ART will be virally suppressed.

At the end of 2023, there were 1,650 persons retained in care at the Ladymeade Reference Unit. Of the persons retained in care, 1,554 were on ARVs resulting in an ARV coverage of 94.1% at the end of 2023. Additionally, at the end of 2023, the 95-95-95 clinical cascade reflected an attainment of 95% of PLHIV aware of their HIV status, 57.8% of those diagnosed with HIV receiving treatment and 73.7%² of those on treatment with antiretroviral regimens, having their viral load fully suppressed.

² Viral load suppression data for 2023 is incomplete at the time of reporting

STIs in Barbados

Sexually Transmitted Infections (STIs) carry a significant disease burden in Barbados, especially among young persons. The main STIs of interest, from the point of view of disease surveillance, are Chlamydia, Gonorrhoea and Syphilis (including congenital syphilis).

In 2023, the Best dos Santos Public Health Laboratory (BDSPHL) performed Chlamydia trachomatis (CT) and Neisseria gonorrhoea (NG) testing on 7,452 urine samples. There were 782 positive CT cases resulting in a 10.5% positivity rate while the 233 positive cases for NG resulted in a 3.1% positivity rate.

Compared to 2022, there were increased numbers of positive samples for both CT and NG in 2023. However, the positivity rate (proportion of samples which tested positive) for CT decreased in 2023 versus 2022 (10.5% vs 11.9%), while the positivity rate for NG increased in 2023 versus 2022 (3.1% vs 2.2%). The positivity rates over the past ten years average 12.2% and 2.8% for CT and NG respectively.

In 2023, the median age of CT cases was 23 years, with the majority of cases occurring in the 20-24 age group (37.3%). In comparison, the median age of NG cases was 25 years, with the highest number of cases occurring in the 20-24 age group (28.7%) and the majority of cases overall, occurring between the ages of 20 and 29 years (53.2%). A significantly greater proportion of females tested positive for CT in 2023 (65%) compared with males (32%), while similar proportions of females (49%) and males (49%) tested positive for NG.

Table 22 below shows the annual number of tests conducted for syphilis as well as the percentage of results determined to be positive for syphilis. In 2023 there were 285 positives of 11,158 tests performed, resulting in a positivity rate of 2.6%.

Table 22: Syphilis laboratory tests per year, 2018 - 2023

Year	2018	2019	2020	2021	2022	2023 ³
≤1:4	151	156	129	89	82	103
≥1:4	181	215	157	119	138	182
Total Reactive (Positive)	332	371	286	208	220	285
Total TPPA tests	869	823	567	387	752	334
Total Non-reactive	537	452	281	179	532	213
Total Reactive (Positive)	332	371	286	208	220	285
Total Reactive (Positive)%	3.1%	2.8%	2.7%	2.8%	2.1%	2.6%
Total No per year of VDRL/ RPR tests	10,635	13,141	10,719	7,375	10,642	11,158

Source: BDSPHL 2024

It should be noted that positive syphilis test results need to be deduplicated to reflect the actual number of syphilis cases per year. Rates are based on the proportion of positive tests versus the number of tests performed. It should also be appreciated that during a course of treatment individuals commonly have more than one test performed, and positive test results will remain. Titres of greater than 1:4 are used as a proxy for new syphilis cases until the deduplication process is completed. Positivity rates have ranged from 2.1% to 2.8% over the past five (5) years with an average rate of 2.6%. There was no congenital syphilis cases reported in 2023, and one (1) case of congenital syphilis reported in 2022.

Actions being taken to address STIs include the strengthening of surveillance mechanisms, increasing human resource capacity at the Winston Scott STI clinic, the revision of STI treatment protocols and increasing health promotion efforts to promote awareness of STI prevention and treatment.

Tables 23-26 below were used to generate aspects of the narrative:

³ Data for 2023 is up to December 25, 2023

Table 23: Number of persons testing positive for CT, 2023

Age Group	Female	Male	Unknown	Total
10 - 14	5	1	0	6
15 - 19	90	32	0	122
20 - 24	203	88	1	292
25 - 29	105	50	0	155
30 - 34	53	28	2	83
35 - 39	19	12	0	31
40 - 44	6	8	0	14
45 - 49	9	3	0	12
50 - 54	0	3	0	3
55 - 59	1	4	0	5
60+	1	1	0	2
Unknown	20	16	21	57
Total	512	246	24	782
Median age of positive cases	24	23	.	23

Source: BDSPHL 2024

Table 24: Number of persons testing positive for NG, 2023

Age Group	Female	Male	Unknown	Total
10 - 14	3	2	0	5
15 - 19	15	12	0	27
20 - 24	33	34	0	67
25 - 29	34	23	0	57
30 - 34	18	20	0	38
35 - 39	4	7	0	11
40 - 44	2	7	0	9
45 - 49	0	1	0	1
50 - 54	0	0	0	0
55 - 59	0	1	0	1
Unknown	5	8	4	17
Total	114	115	4	233
Median age of positive cases	25	27	.	25

Source: BDSPHL 2024

Table 25: Percentage positive CT cases by age group and sex, 2014-2023

Gender	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Male	205	417	302	248	219	138	148	25	138	246
Female	680	549	781	646	527	330	439	104	437	512
Not Stated	13	73	11	10	44	13	10	2	12	24
Total	898	1039	1094	904	790	481	597	131	587	782
Total Test	7,316	8,051	8,330	7,083	6,372	3,858	4,744	1152	4934	7452
% Positive Test	12.3	12.9	13.1	12.8	12.4	12.5	12.6	11.4	11.9	10.5

Source: BDSPHL 2024

Table 26: Percentage positive NG cases by age group and sex, 2014-2023

Gender	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Male	59	99	106	86	89	38	49	7	38	115
Female	126	101	170	125	107	73	80	13	69	114
Stated	1	18	4	5	17	2	5	1	3	4
Total	186	218	280	216	213	113	134	21	110	233
Total Test	7,316	8,051	8,301	7,083	6,372	3,958	4,744	1152	4,934	7452
% Positive Test	2.5	2.7	3.4	3.0	3.3	2.9	2.8	1.8	2.2	3.1

Source: BDSPHL 2024

Long-Term Care Facilities

The Geriatric Hospital continued to operate at reduced capacity due to the re-designation of two wards to provide quarantine/isolation services, and major on-going repairs to other wards. The District Hospitals operated with a capacity of 464 beds during 2023. There were 137 admissions collectively, as seen in Table 27. Transfers to the Queen Elizabeth Hospital totalled 64, and these were from St. Michael District Hospital, St. Philip District Hospital, and St. Lucy District Hospital. Clients are usually transferred to one of the other District hospitals or transferred to the Alternative Care of the Elderly Programme (ACEP).

The ACEP was developed to meet the growing demand for institutionalised care. Through this model, the government provided for the cost of caring for elderly persons who are transferred by

the ministry to private nursing homes. This programme had a capacity of approximately 135 persons with 26 out of a total of 56 private nursing homes participating.

The high number of clients with NCDs was a reflection of the prevalence of these diseases in the wider society. While 25% of clients were diabetics, as seen in Table 28, thirty-seven percent or 170 were hypertensive. This reinforced the need for greater focus to be placed on preventative services since the presence of NCDs in this population group results in complications that can be debilitating and harm their quality of life.

The St. Philip District Hospital also operated at reduced capacity during 2023, due to the on-going renovations of three (3) wards. The St. Lucy District Hospital continued to admit elderly clients only from the QEH.

Table 27: District Hospitals Utilisation Data

District Hospitals	St. Michael		St. Philip		St. Lucy		Total
	M	F	M	F	M	F	
Number of beds	139	139	72	78	36	0	464
Number of admissions	33	58	4	13	29	0	137
In-patient service days	78,961		35,629		11,613	0	126,203
Percentage Occupancy	89.2%		64%		88%	0	80.4% (Avg.)
Bed turnover rates	0.4		0.1		0.6	0	0.36 (Avg.)
Number of deaths	27	40	6	9	7	0	89
Number of transfers to QEH	18	6	9	22	9	0	64

Number of discharges	12	30	0	0	15	0	57
Number of referrals to AED	9	3	2	1	18	0	33
Number of persons under 65	13	8	5	15	9	0	50

M - Male; F - Female

Table 28: District Hospitals Morbidity Report

District Hospitals	St. Michael		St. Philip		St. Lucy		Total
	M	F	M	F	M	F	
No. diabetics	38	43	5	15	13	0	114
No. hypertensive	36	68	18	29	19	0	170
No. ulcers	17	26	12	16	5	0	76
No. falls	11	9	5	12	20	0	57
No. infections*	102	146	40	72	57	0	417

*Multiple infections recorded in clients

Surveillance of New and Emerging Communicable Diseases

Arboviral Diseases

In 2023, there was a 52% increased rate of Dengue Fever in the Americas compared to reported figures for 2022, according to the Dengue Situation Report for 2023 from the Pan American Health Organisation. Levels of Chikungunya and Zika virus diseases were also

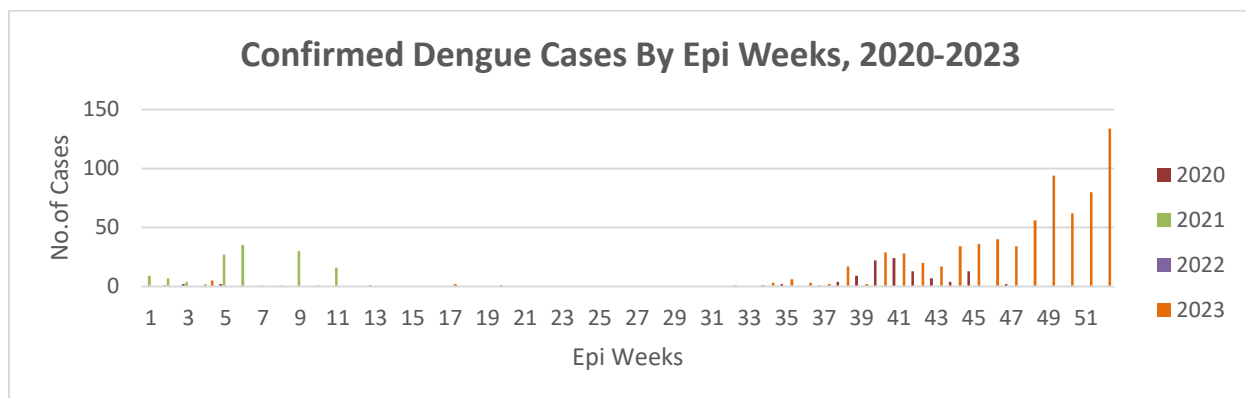


increased above the average for the prior four years particularly in the Amazonian states like

Brazil. In Barbados, continued surveillance for resurgent Zika virus revealed no reported cases since the last three confirmed cases in March 2017. The MHW will continue to monitor for Zika virus disease locally and internationally.

Dengue Fever is considered endemic to Barbados and sporadic cases are expected to occur throughout the year with higher numbers often observed in the first three months or the last three months of the year in a non-outbreak year. After two years with no confirmed cases, an outbreak was confirmed in October 2020 which persisted into early 2021. In 2022, there were 335 suspected cases but there were no confirmed cases. In 2023, an outbreak of Dengue Fever occurred starting in October and accounting for 2,757 clinically suspected and 705 laboratory confirmed cases by December 2023 as seen in Figure 5. Two circulating subtypes of the Dengue Virus were detected, resulting in numbers of persons presenting to the hospital with severe infection but no deaths were observed up to the end of the year.

Figure 5: Confirmed dengue cases 2020-2023

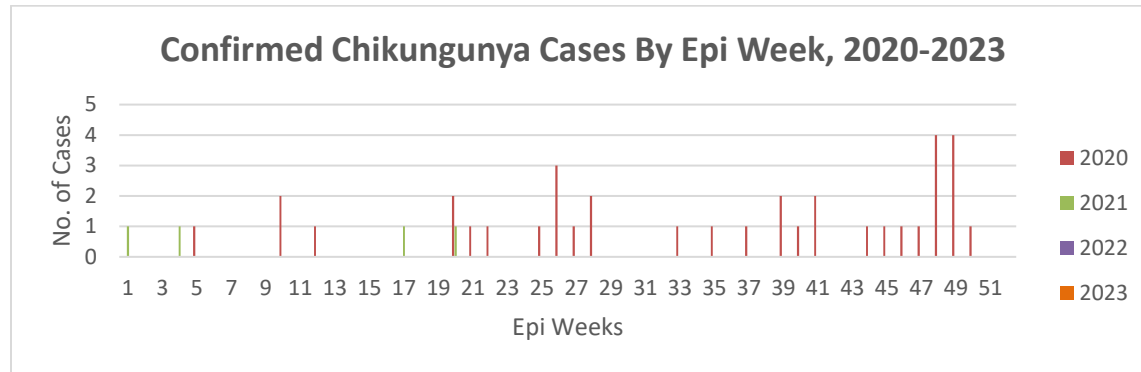


Source: Surveillance Unit, Ministry of Health and Wellness, 2024

Chikungunya virus disease was introduced to Barbados in 2014. Since then, there have been sporadic cases recorded as shown in Figure 6 below. In 2023, there were no confirmed cases despite the testing of 566 suspected cases in the midst of the Dengue Fever outbreak. In 2022,

there had been no confirmed cases among the 167 suspected cases. This followed the 4 confirmed and 4 suspected cases of 2021 after the 33 confirmed and 101 suspected cases in 2020.

Figure 6: *Confirmed Chikungunya cases 2020-2023*

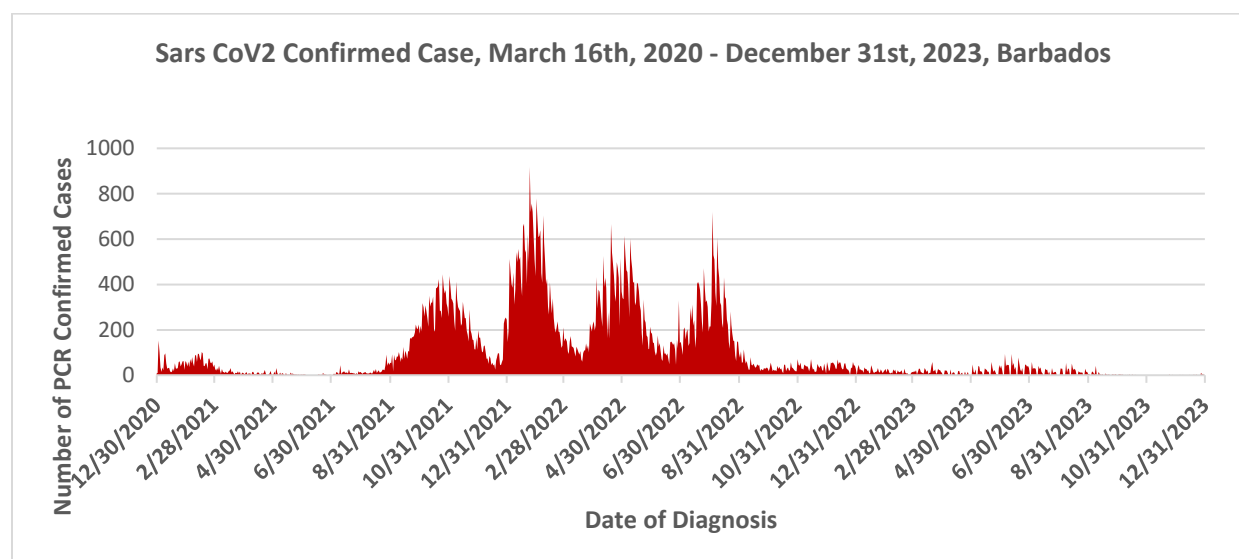


Source: Surveillance Unit, Ministry of Health and Wellness, 2024

Respiratory Diseases

In March 2020, the first two cases of COVID-19 were diagnosed in Barbados and weekly numbers showed a first peak four weeks later with 23 cases as seen in Figure 7. Since then and up to December 2023, five distinct waves of infection were experienced in-country, likely fuelled by changes in the circulating variants of the Covid-19 virus. Since around October 2022, the disease has entered a more chronic phase with fewer hospitalisations and deaths. Up to December 31, 2023, 110,542 cases including 60,824 females and 49,718 males, had been diagnosed and there had been 648 deaths giving a crude case fatality ratio of 0.59%. Older age was a significant risk factor for serious illness and death with COVID-19. Death occurred predominantly among persons 70 years or older with multiple co-morbidities especially those of Hypertension, Diabetes or previous stroke.

Figure 7: Epidemic Curve of confirmed COVID-19 cases by date, December 30th, 2020- December 31, 2023



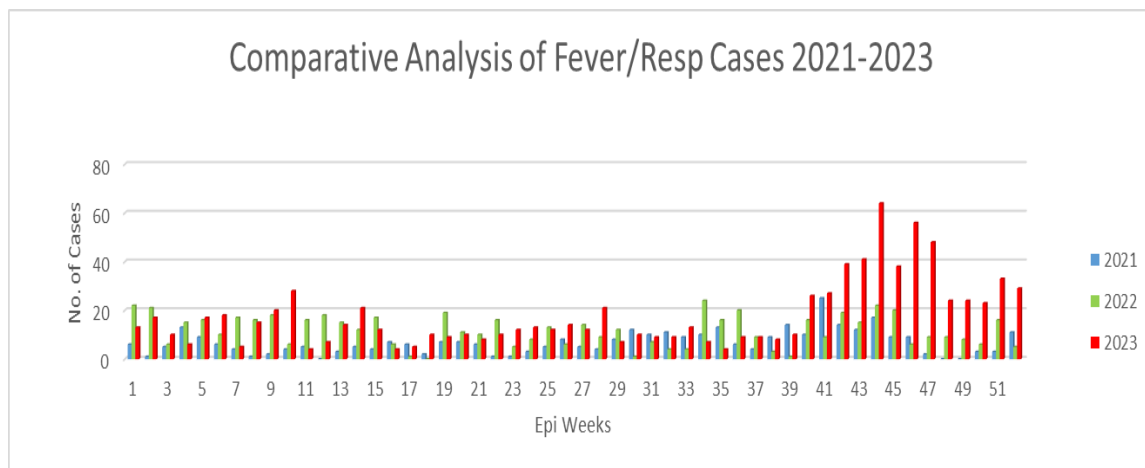
Source: Surveillance Unit, Ministry of Health and Wellness, 2024

Syndromic surveillance also continued for respiratory disease, syndromes indicating other vector-borne diseases and injuries during the year under review. Levels of respiratory infection increased somewhat after the sustained low numbers seen from June 2020 and through to 2022, as increased mobility of residents and influx of visitors occurred.

Laboratory testing for influenza and other respiratory illness restarted after curtailment from June 2020 – 2021 when resources had been concentrated on testing for the Covid-19 virus. Influenza was also the second most common respiratory virus isolated in 2023 as an assay that could test for both Covid-19 and Influenza was utilized on most samples where a few cases of co-infection were recorded. In the Americas generally in 2023, influenza detections increased, and activity was above the seasonal baseline. Influenza A (H1N1) pdm09 viruses were predominated among the detections. In Barbados, from 588 positive samples, 321 were noted to be Influenza of which the majority (105) were subtyped A (H1N1) pdm09 while 90 were typed Influenza B. This infection spike occurred mostly later in the year as seen in Figure 8 below.

One case of Tuberculosis (TB) was confirmed in 2023 after two cases were reported in 2022. All of these cases had infection in the lungs only, were domiciled in Barbados, and none was drug-resistant.

Figure 8: *Fever and Respiratory cases 2021-2023*

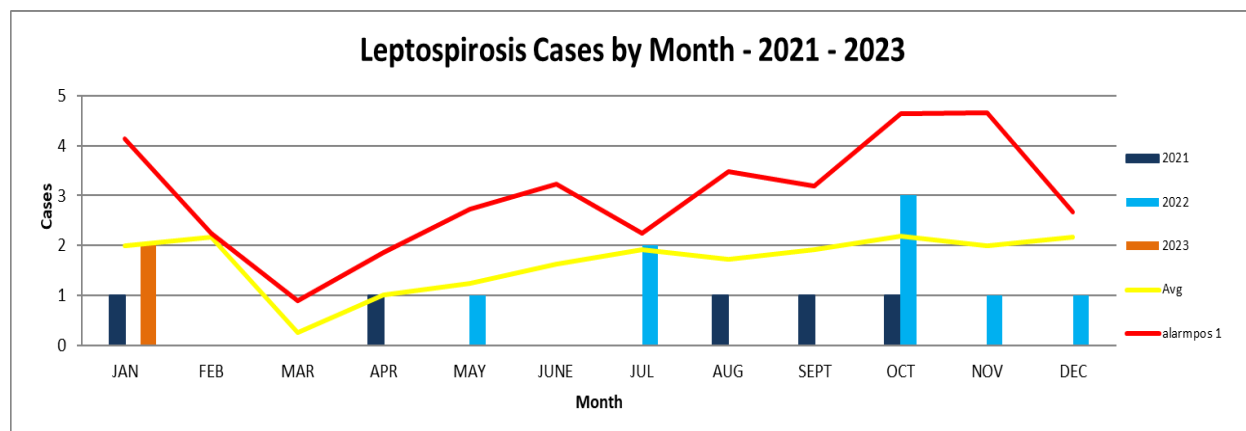


Source: Surveillance Unit, Ministry of Health and Wellness, 2024

Leptospirosis

Leptospirosis is a vector-borne disease of rodents, which most often occurs in the rainy seasons and may present as fever with jaundice. There were five cases recorded in 2021 and 8 in 2022 as seen in Figure 9. Two cases were recorded in 2023. Public education was focused on helping persons to discourage rodent proliferation by decreasing breeding sites and food sources as well as reducing exposure to rodent droppings by using appropriate personal protective equipment while gardening or cleaning animal houses.

Figure 9: Leptospirosis cases 2021-2023

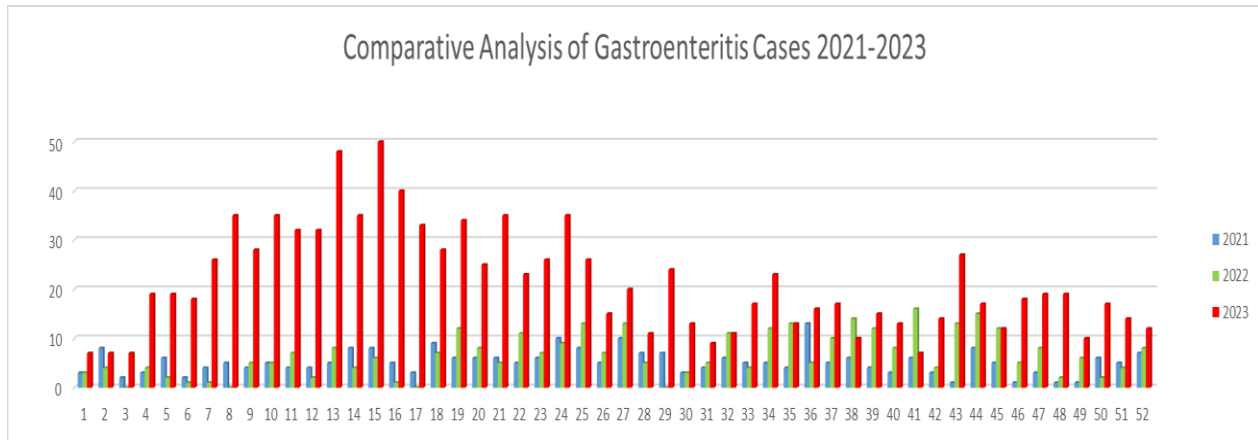


Source: Surveillance Unit, Ministry of Health and Wellness, 2024

Gastrointestinal Illnesses

Vomiting and diarrhoea can occur throughout the year and is associated with bacterial or viral agents. Gastroenteritis outbreaks, in Barbados, tend to be viral or may be related to contamination of foodstuffs. Salmonella or Campylobacter bacteria were the main organisms identified. Viruses causing gastroenteritis were infrequently identified and were mostly rotavirus or norovirus. For example, in 2022 1 rotavirus sample was identified whereas in 2020 and 2021, zero cases of rotavirus and norovirus were diagnosed for the entire year. Gastroenteritis cases were low throughout 2021 and 2022 and increased in 2023 peaking around April that year as seen in Figure 10.

Figure 10: Gastroenteritis cases 2021-2023



Source: Surveillance Unit, Ministry of Health and Wellness, 2024

In a broader developmental context, the MHW has key roles to fulfil in ensuring the sustained development of Barbados' tourism industry. It continues to support the thrust of a regional CARPHA Tourism and Health project that encourages local hotels to report the numbers of clients displaying syndromes representing gastrointestinal and respiratory illness. Fortunately, with the new integrated public health lab, the MHW has significant capacity for testing. The competition for testing modalities and tardy (or absent) notification of illness by practitioners are challenges to monitoring sickness and disease.

The MHW continued to invest in robust infection prevention control at the QEH, Psychiatric Hospital and all other institutions. It also developed the updated 2013-2028 Anti-Microbial Plan to support these initiatives.

The Barbados Drug Service (BDS)

The BDS is responsible for medication management as well as procurement. Its role is to ensure that the pharmaceuticals used on the island are safe, effective and well-managed. The following responsibilities are under the BDS:

- The Barbados National Drug Formulary
- The Supply and Inventory Service
- The Special Benefit Service (SBS)
- The BDS Pharmacy Service
- The Drug Inspectorate
- The Drug Information Centre
- Pharmacovigilance; and
- Administration and Financial Management

Special Benefits Service

In the 2023, eight new pharmacies were added to the Special Benefit Service. One hundred and six (106) Private Participating Pharmacies provided services to the Barbados Drug Service. Five hundred and ninety-one thousand and fifteen prescriptions (591,015) were dispensed by the Private Participating Pharmacies (PPPs) under the SBS programme at a cost of seven million, five hundred and eight thousand, nine hundred and three dollars and five cents (\$7,508,903.05) as seen in Table 29. This represented a monthly average of forty-nine thousand, two hundred and fifty-one (49,251) prescriptions at a cost of six hundred and twenty-five thousand, seven hundred and forty-one dollars and ninety-two cents (\$625,741.92).

In the 2022 calendar year, seven hundred and forty-nine thousand, one hundred and sixty-three prescriptions (749,163) were dispensed at a cost of seven million, five hundred and five thousand, two hundred and twelve dollars and sixteen cents (\$7,505,212.16). There was a 21.1% decrease in prescriptions dispensed at PPPs under the SBS programme in the calendar year 2023 as compared to the calendar year 2022. However, there was a 27% increase in the average cost of prescriptions dispensed over the same period.

Table 29: Total Volume and Cost of Prescriptions Dispensed in the Private Sectors for the Years 2020-2021, 2022 & 2023.

Year	Rx's	Expenditure
		(\$)
2020-21	660,473	5,995,892
2022	749,163	7,505,212
2023	591,015	7,508,903

Public Sector Pharmacies

The BDS pharmacy service, comprises 14 pharmacies located in nine polyclinics, three out-patient clinics and two district hospitals. The St. Thomas Out-patient Clinic Pharmacy and the St. Philip District Hospital Pharmacy have been closed since May 2022 and November 2022, respectively. Therefore, for the calendar year 2023, twelve (12) pharmacies were in operation under the BDS Pharmacy Service. During the year, nine hundred and eighty-one thousand, three hundred and thirty-seven (981,337) prescriptions were dispensed in the BDS Pharmacy Service at a cost of nine million, two hundred and four thousand and six-eight dollars and fifteen cents (\$9,204,068.15). The pharmacy at the Psychiatric Hospital is not a BDS Pharmacy; however, its drug budget comes from the BDS drug allocations. Effective April 1, 2023, prescriptions for the Psychiatric Community Clinics were filled at the polyclinic pharmacies and the out-patient clinic pharmacies as opposed to the Psychiatric Hospital Pharmacy.

The Psychiatric Hospital Pharmacy dispensed seventy-five thousand, two hundred and eighty-two (75,282) prescriptions at a cost of eight hundred and twenty-two thousand, five hundred and eighty-six dollars and ninety-four cents (\$822,586.94). The total number of prescriptions dispensed through the BDS pharmacies, and the Psychiatric Hospital Pharmacy for the calendar year 2023 were one million, fifty-six thousand, six hundred and nineteen (1,056,619) prescriptions at a cost of ten million, twenty-six thousand, six hundred and fifty-five dollars and nine cents (\$10,026,655.09).

Statistical Data for the BDS Pharmacies and the Psychiatric Hospital

During 2023, Winston Scott Polyclinic Pharmacy had the highest prescription count having filled 144,084 prescriptions, which accounted for 13.6% of the total volume of prescriptions. As shown in Table 31 and Figure 11, the cost of the 144,084 prescriptions filled at Winston Scott Polyclinic Pharmacy was \$1,101,459.58 and accounted for 11% of the total cost of the prescriptions dispensed. Randal Phillips Polyclinic Pharmacy and Maurice Byer Polyclinic Pharmacy filled 113,930 and 113,636 prescriptions respectively, each accounting for approximately 10.8% of the total volume of prescriptions filled and 10.5% and 9.8% respectively of the total cost of prescriptions dispensed for the calendar year 2023. The St. Philip Polyclinic Pharmacy, Eunice Gibson Polyclinic Pharmacy and Edgar Cochrane Polyclinic Pharmacy filled 105,068, 99,915 and 98,727 prescriptions respectively as shown in Table 31 accounting for 9.9%, 9.5% and 9.3% of the total prescription count respectively. Branford Taitt Polyclinic Pharmacy filled 8.6% of the total volume of prescriptions filled having filled 90,416 prescriptions. Frederick Miller Polyclinic, Psychiatric Hospital Pharmacy and David Thompson Health and Social Service Centre Pharmacy accounted for 7.8%, 7.1% and 7.0% of the total volume of prescriptions respectively. Geriatric Hospital Pharmacy filled 34,912 prescriptions, St. Joseph Out-patient Clinic Pharmacy filled 12,384 prescriptions and St. Andrew Out-patient Clinic Pharmacy filled 11,933 prescriptions. This accounted for 3.3%, 1.2% and 1.1% of the total prescription volume.

Table 30: Pharmacy Codes

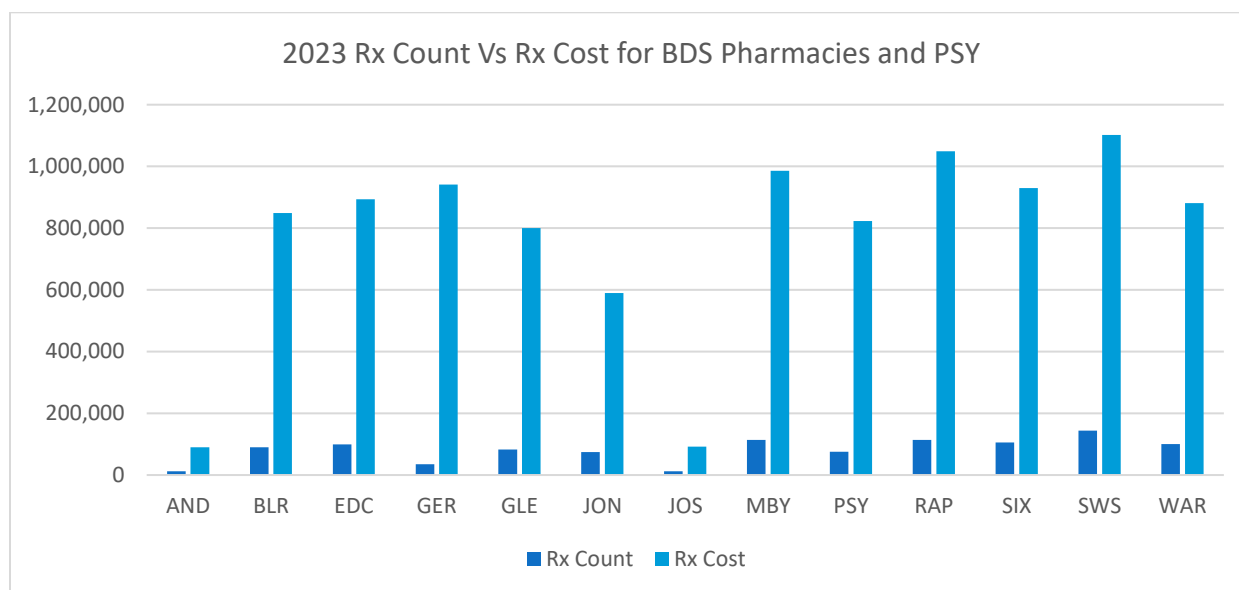
Code	Pharmacy Name	Code	Pharmacy Name
AND	St. Andrew Out-Patients Clinic Pharmacy	RAP	Randal Phillips Polyclinic Pharmacy
BLR	Branford Taitt Polyclinic Pharmacy	SIX	St. Philip Polyclinic Pharmacy
EDC	Edgar Cochrane Polyclinic Pharmacy	SPH	St. Philip District Hospital Pharmacy
GER	Geriatric Hospital Pharmacy	SWS	Winston Scott Polyclinic Pharmacy
GLE	Frederick “Freddie” Miller Polyclinic Pharmacy	THO	St. Thomas Out-Patients Clinic Pharmacy
JON	David Thompson Health & Social Services Centre Pharmacy	WAR	Eunice Gibson Polyclinic Pharmacy
JOS	St. Joseph Out-Patients Clinic Pharmacy	PSY	Psychiatric Hospital Pharmacy
MBY	Maurice Byer Polyclinic Pharmacy		

Table 31: Prescription Count & Expenditure for Pharmacies for 2023

Pharmacy	2023	
	RX COUNT	EXPENDITURE (\$)
AND	11,933	90,404.03
BLR	90,416	849,141.92
EDC	98,727	893,734.28
GER	34,912	941,694.06
GLE	82,493	800,108.05
JON	73,839	589,425.08
JOS	12,384	92,341.28
MBY	113,636	985,409.87
RAP	113,930	1,048,972.39
SIX	105,068	930,166.94
SPH*	0	0.00
SWS	144,084	1,101,459.58
THO*	0	0.00
WAR	99,915	881,210.67
Total	981,337	9,204,068
PSY	75,282	822,586.94
Total	1,056,619	10,026,655.09

NB: St. Thomas out-patient pharmacy closed at the end of May 2022 and St. Philip District Hospital pharmacies were closed from November 2022. Both pharmacies were closed during the 2023 calendar year.

Figure 11: Prescription Count Vs Prescription Cost for BDS Pharmacies and PSY for 2023



Pharmacovigilance

Pharmacovigilance (PV) is the science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other medicine or vaccine-related problem. During 2023, the BDS received 115 reports, with 108 of these uploaded to VigiLyze. In comparison, 90 reports were received in 2022, and 129 reports were recorded during the 2020-2021 reporting period. These trends are summarised in Table 32.

Table 32: Pharmacovigilance Reports for the year 2020-2021, 2022 and 2023

Reporter	2023 Count	2022 Count	2020-2021
Physician	53	29	45
Pharmacist	17	17	37
Other/ professionals	10	5	29

Consumers/non-health professionals	10	35	19
Unknown skill	18	4	

During the 2023, the top 5 reported medicines were Empagliflozin, Nepafenac, Dianeal, Fluphenazine, and Dabigatran. The most reported effects were punctuating keratitis, peritonitis, balanoposthitis, urinary tract infections and out of specification test results, the latter for products that were sent for testing from post marketing surveillance. Safety alerts were shared with various stakeholders for ephinephrine and tetracycline ophthalmic ointment.

The Drug Information Centre

The Information center processes Category B drug application and relay drug approvals. Category B drugs are not full formulary items; they are made available to patients who need medicines which are not on the national formulary to manage their disease conditions. There were (3,436) three thousand four hundred and thirty- six requests for the year January to December 2023, the BDS spent a total of eight hundred and seventy-two thousand and forty-five dollars and thirty cents (\$872,045.30) to satisfy the requests for 2023 compared to one million, six hundred and twelve thousand, five hundred and nine dollars and seventy-nine cents (\$1,612,509.79) in the 2022 calendar year.

Drug Inspectorate

The Regulatory Section of the Barbados Drug Service comprises of the Drug Inspectorate Department, and the Pharmacovigilance Department. The Drug Inspectorate Department provides the quality assurance linkages between the BDS, Ministry of Health and Wellness and the public of Barbados. It collaborates with many local, regional, and international stakeholders as it plays a vital role in safeguarding the health and safety of the population and ensuring safe, effective, and quality medicines in the market.

Collaborations with the Department of Commerce and Consumer Affairs, Barbados National Standards Institute (BNSI), Export Barbados, the Barbados Medical Cannabis Licensing Authority (BMCLA), the National Council of Substance Abuse (NCSA), the Barbados Police Service, (BPS), the Customs and Excise Department, and the Forensic Sciences Centre, are among the local organisations with which close work was conducted in 2023.

The inspectorate engages in several activities such as quality assurance checks with respect to medicines, psychoactive substances, and poisons. In 2023 the Drug Inspectorate continued its collaborative work with the Customs and Excise Department at the various ports of entry and the post office in efforts to ensure that illegal drugs imports are prevented from entering our market.

One of the main functions of the Drug Inspectorate is the inspection of pharmacies for the Barbados Pharmacy Council to ensure that pharmacies are regulated and stay within the ambient of the Pharmacy Act. The year 2023 saw an increase in the number of private pharmacies requiring inspections for registration purposes.

With a focus on the prevention of sub-standard and falsified drugs in the market, the drug inspectorate has been collaborating with one of its regional stakeholders, the Caribbean Public Health Agency Medicines Quality Control Department (CARPHA MQCD) in their Post Marketing Surveillance Programme, where samples of drugs taken from the local market, were sent to their laboratory for analysis.

The Drug Inspectorate has also been engaging in close collaborations with international organisations such as the Organization of American States (OAS) Inter-American Drug Abuse Control Commission (CICAD) and COPOLAD, in the fight against drug trafficking and illicit manufacture, use, storage and illicit distribution of drugs, precursors and chemical substances.

The entire regulatory team has been collaborating with other international organisations such as the Biopharma Excellence, KenUp Foundation, PAHO, Rwanda FDA, and Delegation of the

European Union to Barbados, Eastern Caribbean States, and CARICOM, with the aim of strengthening the regulatory section, and to develop an independent and autonomous national regulatory authority.

To this end the “Barbados White Book,” was developed (by the Biopharma Excellence team), to allow the Government of Barbados and all associated stakeholders to make informed decisions on the actions to be taken to successfully develop and strengthen the National Drug Regulatory Authority, and to attain the goal of the government of Barbados to develop an infrastructure that is attractive for developers and manufacturers of biological medicinal products for preventive and therapeutic indications as well as for other health products such as medical devices and diagnostics. The aim is to make Barbados more independent from manufacturing countries mainly located in industrialised countries in the Global North.

Table 33: Report of the Drug Inspectorate for the year January 1, 2023, to December 31, 2023

Activities	2023	2022
Psychotropic Drug Import Authorizations:	108	89
Psychotropic Drug Export Authorizations:	106	147
Narcotic Import Authorizations:	106	76
Narcotic Export Authorizations:	114	94
Non-Schedule Import Authorisations	85	64
Non-Schedule Export Authorisations	31	
Personal Import Authorisations:	222	160

Pharmacy Premises Inspections:	116	109
Therapeutic licenses:	371	357
Certificates of Analysis:	127	39
Free Sale Certificates:	32	6
Inspections of Nursing Homes	-	4
Applications for Inclusions	-	-

The year 2023, saw increases in almost every function of the Drug Inspectorate over the year 2022 as shown in Table 33. Generally, there has been increases in the processing of import and export licences, the inspection of premises and the issuing of Free Sale Certificates also saw an increase.

Best-dos Santos Public Health Laboratory (BDSPHL)

The laboratory serves as the island's only public health laboratory providing routine testing services to all polyclinics and some private clinics. Additionally, the laboratory offers reference laboratory services to private laboratories, as well as services for other regional laboratories, clinics and programmes. The Laboratory has four main Departments: the Serology Department, the Clinical Microbiology Department (including TB, Enterics and Parasitology), Molecular Diagnostics and Immunology Department and the Environmental Department (water, food and air testing).

The BDSPHL continues to support several programmes and departments in the MHW in disease prevention, monitoring and surveillance, such as the Maternal and Child Health Programme, the

HIV/AIDS Programme, Global Salmonella Surveillance Programme and food safety and outbreak investigations. Support was also provided to the Ministry of Labour, Social Security and Third Sector, the Ministry of Environment and National Beautification (Environmental Protection Department) and the Ministry of Energy and Water Resources (Barbados Water Authority (BWA)) through our Environmental Department (water, food and air quality testing programme).

Following the declaration in May 2023 by WHO that COVID-19 was no longer a global health emergency there was a sharp decrease in the demand for COVID-19 testing services from a figure in excess of 300,000 tests in 2022, to approximately 25,000 tests in 2023. However, many other laboratory services experienced an increase in demand from the previous two years (2021- 2022) to figures similar to that of 2019. This signalled a trend and return to normalcy in other diagnostic and monitoring tests, which were requested by the various public and private health care facilities.

The laboratory continued to improve its services in areas such as AMR testing and introduced genotyping for the carbapenemase producing bacteria. The laboratory also acquired two new instruments (bioMerieux VITEK 2 and bioMerieux MS Prime) to enhance the identification of bacteria and strengthen detection of antimicrobial resistance. Additionally, the laboratory responded to outbreaks (influenza and dengue) in the latter months of 2023 with increases in testing in these molecular and serological tests.

Additional accomplishments included the implementation of COVID-19 sequencing as part of routine surveillance of select positive COVID-19 cases. The laboratory has also been awarded the status of National Influenza Center (NIC) for Barbados by WHO, following the inspection and assessment of the laboratory in August 2023.

Despite these achievements the laboratory was plagued with some stock- outs of reagents, which resulted in the suspension of some testing services throughout the year. These challenges

highlighted the need for enhanced fund availability, more efficient order processing, and timely pre-payment for the required reagents and supplies.

The laboratory processed in excess of 265,000 tests in 2023 (the Serology department processed 22,127 tests, the Microbiology department processed 172,387, the molecular & Immunology departments processed 52,360 tests and the Environmental and Water department processed 20,638 tests). The breakdown in the services provided for the past five years is represented in Tables 34-37.

In 2023, the laboratory was responsible for the screening of all pregnant mothers who attended the Maternal and Child Health clinics. Testing included STIs (HIV, Venereal Disease Research Laboratory test (VDRL), Chlamydia and Gonorrhoea), and other screening tests such as streptococcus B screening. These conditions, if present, may be transmitted to babies and cause complications during or after pregnancy.

Through the measurement of HbA1c, the laboratory continued its monitoring of diabetic patients in collaboration with the polyclinics. The Serology Department also continues to play a pivotal role in antibody testing for arboviruses and leptospirosis. The recent upgrade in 2023 to some equipment will eventually allow the laboratory to expand testing to include antibody tests for Measles, Rubella, Parvovirus, Mycoplasma pneumonia, Varicella Zoster virus, toxoplasmosis, CMV, EBV and other pathogens.

The laboratory continues to play a significant role in the testing of potable, marine, recreational and wastewater across the island to ensure the drinking and bathing waters are safe for residents and visitors. It also supports other sectors, including hotels with water testing for compliance.

The laboratory has collaborations with several regional and international organisations including CARPHA, PAHO/WHO and the Centers for Disease Control (CDC).

Overall, general laboratory services saw an upward trend in demand for testing services in 2023, and the laboratory will continue to develop its services to meet the changing needs of our clients to improve the access to the necessary laboratory diagnostics in line with the public health requirements.

Table 34: Number of tests performed

Serology Department	2019	2020	2021	2022	2023
	Number of Tests	Number of tests	Number of tests	Number of tests	Number of tests
Chikungunya	227	594	365	0	174
Dengue Fever	768	1190	1100	310	1692
Hanta Virus	507	513	134	44	432
HbA1c	6536	5303	4841	4954	8169
Herpes Simplex Virus	1132	1097	620	342	954
IFA	232	171	0	0	0
Leptospirosis	247	362	251	192	242
Parvovirus B19	83	268	16	0	168
Rheumatoid Factor (RF)	160	82	75	88	82
Syphilis (RPR)	14007	11169	7216	10659	10214
Zika	79	90	285	0	0
TOTAL	23978	20839	14903	16589	22127

Table 35: Number of tests performed

Microbiology Department	2019	2020	2021	2022	2023
	Number of Tests	Number of Tests	Number of tests	Number of tests	Number of tests
Swabs (Genitals, Wounds, Eyes, Ears, Nose, Throat)	96745	69783	87564	94752	109494
Stools (Occult blood, Noro & Rotavirus, OCP, C. difficile, E.coli 0157, Staph. Aureus	11204	13165	12587	11620	22575
Salmonella Serotyping	10800	8550	9785	6787	5542
Shigella Serotyping	224	280	148	56	87
Campy Identification	1258	1369	555	1258	253

AMR Testing	3717	13608	5607	16191	33795
Malaria	120	201	76	92	24
TB	358	454	302	494	561
Fungal Testing	56	120	90	81	56
TOTAL	124402	107530	116624	131331	172387

Table 36: Number of tests performed

Molecular Diagnostics & Immunology Department	2019	2020	2021	2022	2023
	Number of Tests	Number of Tests	Number of Tests	Number of Tests	Number of Tests
CD4	1785	0	0	1860	2990
Viral Load	2808	1695	2135	2028	3194
DNA PCR	107	57	23	86	76
CT/NG	6550	5472	1239	4968	7547
Human Papillomavirus	805	197	132	99	525
Drug Resistance	2	0	0	30	74
Dengue	229	672	764	224	2115
Chikungunya	229	672	452	224	2115
Zika	229	672	452	224	2115
Cytomegalovirus	121	192	69	30	182
Epstein Barr Virus	120	200	49	5	173
Influenza Requested	327	236	8	568	3556
Influenza Surveillance				16384	
Herpes Simplex Virus	109	155	40	48	206
Adeno Virus	79	92	48	22	142
Monkey Pox				22	7
COVID 19	0	70996	407094	313175	25207
RSV	0	0	0	0	2019
Parecho	0	0	0	0	117
Total	13500	81308	412505	339997	52360

Table 37: Number of tests performed

Environmental Department	2019	2020	2021	2022	2023
Water Quality	15126	10220	9527	13006	15960
Air Quality	540	664	632	664	1548
Food Micro	657	1665	872	744	2942
Legionella Test	565	677	277	316	188
Total	16888	13226	11,308	14683	20638

Queen Elizabeth Hospital

Queen Elizabeth Hospital (QEH) is the country's primary acute care medical facility (550 bed capacity) providing 94% of all hospital beds for citizens and residents of Barbados while also serving as a referral centre for countries and territories of Eastern Caribbean States. The QEH is also an accredited teaching hospital affiliated with the Faculty of Medical Sciences University of the West Indies, Cave Hill Campus, as well as nursing and allied health care programmes offered by the Barbados Community College and the Samuel Jackman Prescod Institute of Technology. The hospital continues to deliver a wide range of clinical services focused on compassionate, professional, and effective patient-centered care.

Inpatient Services

During the calendar year 2023 the leading in-patient services were Medicine, Obstetrics, Gynaecology, Surgery and Paediatrics. Cumulatively, patients admitted to the hospital under these services accounted for seventy-three percent of total hospital admissions. The recorded average length of stay (including ICUs) was 7.7 days with the aggregate bed occupancy recorded at approximately sixty-seven percent, while the total number of admissions for the same period was 15,689 as seen in Table 38. Comparatively, this represented a seven percent increase over total admissions (14,643) in 2022 while average length of stay (including ICUs) was 7.8 days, and the aggregate bed occupancy recorded at approximately sixty-three percent.

Table 38: Bed Utilisation Rates 2019 - 2023

	Admissions	Patient Days	Average Length of Stay (ALOS) days	Bed Occupancy Rate (%)
2019	18,088	123,448	6.6	70.5
2020	15,771	117,747	7.4	61.5
2021	13,931	108,606	7.8	52.9
2022	14,643	115,249	7.8	62.7
2023	15,689	122,437	7.7	66.8

Data source: Medical Records Department

Accident and Emergency Department

The Accident and Emergency Department (AED) recorded 25,782 patient visits for the year 2023, with 6,832 patients admitted, accounting for 50.4% of total hospital admissions (excluding neonates). Patients accessing care for medical emergencies represented approximately 85% of total patient visits during this period, with approximately 15% seen for trauma related emergencies (motor vehicular accidents, interpersonal violence, falls, etc.). Observation of patient visits to the AED during this period showed a marginal decline in department utilisation while patient acuity was consistent when compared with observations of 26,330 (6,728 admitted) patients seen in 2022. Improving wait times in the AED, efficient delivery of emergency services and the patient experience for attendees of this department remains a critical objective for the QEH.

Patients seen at the AED were triaged and categorised as follows:

- Patients with life-threatening conditions.
- Patients with urgent, but not life-threatening conditions.
- Patients with non-urgent medical conditions but require treatment at the hospital.
- Patients with non-urgent conditions who can be seen elsewhere.

- Patients seen previously and have scheduled reviews.

Table 39 categorises patient triage in Barbados using the Canadian Triage Acuity Scale for 2022 and 2023. The percentage of patients with life-threatening conditions (Category 1) remained consistent at 1.5% both years, while those with urgent, non-life-threatening conditions (Category 2) saw a slight decrease from 9.0% in 2022 to 8.7% in 2023. Non-urgent patients requiring hospital services (Category 3) constituted the majority, at 61.8% in 2022 and 60.9% in 2023. Patients with lower-priority, non-urgent needs (Category 4), who could be seen elsewhere, represented 23.9% in 2022 and 23.7% in 2023. Finally, follow-up patients (Category 5) rose from 3.8% to 5.2%.

Table 39: Canadian Triage Acuity Scale 2022 - 2023

Category	Description	Details	2022	2023
1	Patients with life-threatening conditions	Patients requiring emergency intervention	1.5%	1.5%
2	Patients with urgent but not life-threatening conditions	Patients need urgent care and treatment; (often hospitalization, can become category 1 if not seen promptly)	9.0%	8.7%
3	Patients with non-urgent medical conditions but require treatment at the hospital	Require diagnostics/services not provided at other public facilities	61.8%	60.9%

4	Patients with not urgent conditions who can be seen elsewhere	Not considered high priority (therefore may have to wait for extended periods of service)	23.9%	23.7%
5	Patients seen previously and have scheduled reviews	Not necessarily high priority but require follow up	3.8%	5.2%

Data source: Accident and Emergency Department

Surgical Services

The Department of Surgery provided a full range of elective and emergency surgical services for residents and visitors to Barbados as well as patients referred from other Caribbean nations. In 2023 scheduled elective surgical cases (4,848) increased forty percent over the figure recorded (3,463) in 2022. Seventy-eight percent of cases scheduled were performed with the aggregate same day cancellation rate reported at twenty-two percent representing an eight percent reduction in same day cancellations of elective surgical procedures. Same day cancellations of elective surgeries continued to be an area of discontent to patients and a major source of concern for hospital administration. Many common elective surgical conditions are routinely performed in either an in-patient or out-patient (same-day case) care environment. This is facilitated by a multidisciplinary team of surgeons, nursing and support staff divided into various surgical sub-specialties.

The QEH is committed to improving the delivery of this service through the preoperative medical optimisation of patients scheduled for surgery (preoperative anaesthetic clinic); as well as acknowledging the need to enhance sequencing and scheduling of surgical block time to facilitate patient throughput and reduce same day cancellations.

Table 40 provides an overview of elective surgical cases in Barbados across various sub-specialties in 2023. Of the 4,848 cases scheduled, 3,786 were successfully performed, while 1,062 were cancelled. General Surgery had the highest number of scheduled cases (1,020) and also a high cancellation rate, with 222 cases cancelled. Ophthalmology followed closely, with 985 scheduled and 157 cancellations. Orthopaedics and Ear, Nose & Throat (ENT) also saw a number of cancellations, with 245 and 193 cases, respectively. Neurosurgery, Plastics, Urology, and Cardiothoracic surgery had moderate cancellation rates, while Dental had the fewest cases and cancellations.

Table 40: Elective Surgical Cases by Sub-specialties - 2023

Surgical Specialties	Cases Scheduled	Cases Performed	Cases Cancelled
Ophthalmology	985	828	157
Neurosurgery	104	72	32
Ear Nose & Throat	692	499	193
Obstetrics/Gynaecology	689	585	104
Orthopaedics	764	519	245
Plastics	121	114	7
Urology	218	181	37
Cardiothoracic	235	174	61
General Surgery	1020	798	222
Dentals	20	16	4
Total	4848	3786	1062

Data source: Nursing Services

Radiotherapy

The Department of Radiotherapy continued through its multidisciplinary team to provide radiotherapy, chemotherapy for solid tumours, nuclear medicine services, palliative and terminal care for patients who require cancer management services. The most common malignancies seen and treated in 2023 were breast, prostate, and colorectal cancers. In addition, cervical and endometrial cancers, head and neck cancers, as well as haematological malignancies were seen and referrals made for radiotherapy when needed. Nuclear scans utilising the hybrid Gamma Camera Unit continued during this review period, contributing to the patient screening processes provided within the department. The availability of Chemotherapy services continued using commonly available drugs used in malignancies such as breast cancer, colon cancer, head and neck cancer and ovarian cancer. Specially authorized drugs approved by the Drugs and Therapeutic Committee of the QEH were made available on request for the treatment of various types of cancers in patients receiving services in the department. Additionally, ensuring that patients, family and or caregivers are actively engaged in their care and continually apprised of treatment options continues to be the hallmark of this vital service provided within the department.

Table 41: Pattern of Malignant Referrals - 2023

Site	Male	Female	Totals
Breast	5	126	131
Colon	31	39	70
Stomach	1	3	4
Oesophagus	3	2	5
Other Digestive Organs	15	5	20
Rectum	14	13	27
Thyroid	11	30	41
Cervix	0	11	11

Endometrium	0	42	42
Prostate	50	0	50
Head and Neck	19	9	28
Blood and Lymph	0	1	1
Multiple Myeloma	2	2	4
Lung	4	1	5
Other Endocrine Organs	1	2	3
Urinary Organs	8	6	14
Brain and CNS	2	1	3
Skin	1	4	5
Bone	0	3	3
Ovary	0	5	5
Unknown Primary	4	1	5
All Others	1	5	6
Totals	172	311	483

Data source: Department of Radiotherapy

The data analysis reveals significant gender disparities in cancer occurrences. Females had a higher overall prevalence of cancer cases (311) compared to males (172), primarily due to gender-specific cancers like breast (126 cases), cervical (11 cases), and endometrial cancers (42 cases). Prostate cancer was exclusively male with 50 cases as seen in Table 41. Thyroid cancer was also more common in females (30 cases) compared to males (11 cases).

Colon and rectal cancers showed a more balanced distribution, with slight female predominance. Head and neck cancers were more frequent in males (19 cases) than females (9). Rare cancers like stomach, oesophagus, multiple myeloma, and brain/CNS had few cases, showing minimal gender bias.

Overall, the data highlights the need for gender-specific cancer screening and prevention strategies, with a focus on the higher prevalence of reproductive and thyroid cancers in females and prostate cancer in males.

Pharmacy Services

The Pharmacy Department is an integral component of the multidisciplinary healthcare team tasked with providing optimal pharmaceutical services at the QEH. This department continued during 2023 to deliver pharmaceutical services for inpatients and outpatients, as well as the provision of service to the public who rely on the department as the pharmacy of choice for their pharmaceutical needs through the Medication Delivery Service. The Prescription Report summary information provided by the Abacus Dispensing system for the year 2023 recorded a total of 428,433 prescriptions dispensed at a total cost of \$27,598,959.82 inclusive of Specially Authorised Drugs (SADs). SADs are non-formulary medicines which require approval before dispensing, including some speciality medicines and antibiotics. Additionally, requests for SADs are initiated by the Consultant Head of Department across the various clinical services for approval by the Specially Authorised Drugs Sub-Committee. A total of 174 SADs received approval during the review period with an aggregate cost of \$4,914,480.69 representing approximately eighteen percent of the total cost of prescriptions dispensed for the year 2023 as seen in Table 42.

Table 42: Specially Authorized Drugs (SAD) Requests - 2023

Department	No. of SADs	Cost (BBD)
Paediatrics	5	25,804.65
Ear Nose & Throat	-	-
Medicine	87	1,023,737.78
Haematology	14	234,828.28
Radiotherapy	61	3,591,324.54
Surgery	1	2,035.44

Staff Wellness Centre	-	-
Obstetrics & Gynaecology	-	-
Ophthalmology	6	36,750.00
TOTAL	174	4,914,480.69

Data source: Pharmacy Department

Medical Aid Scheme

The Queen Elizabeth Hospital's Medical Aid Scheme provides access for citizens of Barbados to specialized medical services and or expertise that is not available in the healthcare system in country. In the calendar year 2023 a total of twenty-one patients between the ages of one year to seventy-two years were aided in obtaining access to healthcare overseas. Patient referrals were predominately for Oncology services and included other specialties such as Neurology, Paediatrics, Otolaryngology, Haematology and Endocrinology. The scheme disbursed grants for overseas medical interventions totalling \$3,002,812.17 processed in the Social Services Department.

Rehabilitation Services

The Department of Rehabilitation during the review period continued to provide inpatient and outpatient services to patients recovering from illness and or injury. This service was delivered utilising the three units; Physiotherapy, Occupational Therapy, and the Orthotics/Prosthetics workshop. In 2023, the Physiotherapy Unit expanded its services to the Barbados Prison Service and the Barbados Defence Force while maintaining the staff wellness component for employees of the QEH. The Physiotherapy Unit and its team of dedicated therapist and support staff provided services for 5,722 patients which accounted for 19,767 patient visits and the delivery of 62,574 units of care as seen in Table 43. Physiotherapy services for inpatients, outpatients, critical care patients and staff of the QEH was applied in Cardiopulmonary, Neuromedical, Orthopaedics, Amputee, and Staff Wellness rehabilitation. In addition, special inpatient services were provided

for recipients of corrective scoliosis surgical procedures performed under World Paediatrics visiting mission.

Table 43: Physiotherapy Unit Utilisation by Service - 2023

Physiotherapy Services	No. of Patients	No. of Patient Visits	Units of Care
Cardiopulmonary	872	3432	8801
Neurological	2370	6715	32232
Orthopaedics	1504	6783	27132
Amputee Clinic	803	2409	19272
Staff Wellness Centre	173	428	2409
Total	5722	19767	62574

Infection Prevention and Control

The Hospital Infection Prevention and Control Department (IPC) continued to play a pivotal role in 2023 to ensure hospital-wide adherence to infectious disease prevention and management. This framework is critical to the delivery of safe and quality clinical services to patients. Moreover, reducing the risks and associated incidence of Healthcare Associated Infection (HAI) is critical to the safety of patients, staff, and visitors. Therefore, IPC is also at the core of creating an environment that is conducive to patient hospitalisation, recuperation, and recovery, while negating the need for extended length of stays and incurred cost to the QEH resulting from HAIs. In-hospital infection surveillance, prevention and control programmes instituted continues to help the department to monitor the occurrence of HAIs and to control the spread of hospital and community acquired infections through internal quality improvement efforts.

IPC surveillance (passive and active) amongst healthcare and support staff for accidental exposure to blood borne pathogens recorded a total of fifty-two incidents during this review period. Ninety percent of staff exposures were attributed to Accidental Needle Stick Injuries (47), six percent to Accidental Blood and/or Body Fluids exposure and four percent related to Accidental Injury sustained from handling a medical instrument. No adverse outcomes were reported amongst staff members in these reported incidents.

Accreditation

The Queen Elizabeth Hospital (QEH) remained committed to the provision of quality, professional and effective patient-centered care during the review period. This commitment was demonstrated by the successful achievement of accreditation status at the ‘Gold Level’ in June 2023 with Accreditation Canada. The institution participated in a hospital-wide formal assessment of its programmes and services during a peer review conducted by Accreditation Canada representatives using standards of the healthcare accreditation body. The QEH satisfied approximately 91% of the overall safety standards evaluated which resulted in the ‘Gold level’ designation of accreditation. This accreditation cycle emphasised the importance of People-Centered Care (PCC) in a healthcare service environment that focuses on patient safety, a framework that has resulted in better patient outcomes.

The Pathology Laboratory met its requirements for the Jamaica National Agency for Accreditation (JANAAC) in June and was awarded the certificate of accreditation for 4 years from the date of issuance.

Hospital Digital Transformation Project

The use of technology has been recognized as endemic to improved productivity, enhanced business facilitation and a more customer centric approach by the Government of Barbados. To facilitate these modernisation and efficiency improvement efforts under the Barbados Public Sector Modernisation Programme, a core team was contracted to support the digital

transformation of the QEH through funding from the European Union and administrated by the Inter-American Development Bank during the review period. Several internal stakeholder consultations were conducted and completed to determine the hospital's state of readiness and the agreed deliverables required for submission.

Environmental Health Department

Food Safety

The Ministry of Health and Wellness food safety goal was to ensure that only wholesome food reaches the population, thereby reducing the burden of food-borne illnesses. Food safety refers to the handling, storing and preparation of food in a manner that prevents foodborne illness. Food Safety breaches can result in major public health events and as such, the MHW as the competent authority and enforcement agency for food safety has the greatest synergies of competencies, qualified staff and skill sets to respond to human health issues that may arise from food safety breaches in Barbados.

The Environmental Health Department's comprehensive food safety programme included the inspection and monitoring of food service establishments according to the Health Services Act 1969. In addition, the application of the principles of good manufacturing practices, Hazard Analysis Critical Control Point (HACCP) practices, and an appropriate level of food safety training for food service managers and food service employees are also required. The training was conducted in Food Hygiene at various food establishments as well as within the Ministry of Health Training Unit. Three hundred and twenty-two (322) persons were trained in food safety in 2023.

The Department continued the inspection, licensing and monitoring of food services and other business establishments under the Health Services Act 1969. Food service establishments were inspected and monitored to ensure that food served to the public was wholesome and fit for human consumption. Food service establishments accounted for 85% of the businesses registered with

the department. These included: restaurants, supermarkets, minimarts, bars, community shops, stalls and street food vendors. The other businesses included hairdressing salons, lodging houses and barracks, funeral establishments, hotels and recreational water establishments.

The Department continued to face challenges to inspect and monitor businesses due to an approximately 35 % reduction of staff due to attrition and retirement. In an effort to ensure good practices are maintained, the department engages in teamwork to provide coverage in all areas.

During the year 2023, the Environmental Health Department continued to ensure that wholesome foods were served during the Crop-Over season and at other events through education and their physical presence at locations. Approximately 3,900 applications were received for these events. Food products were inspected throughout the year to ensure that food fit for human consumption reached consumers.

The Environmental Health Department continued to collaborate with the Ministry of Agriculture Food and Security to complete the revision of the law governing food safety and food quality in Barbados by establishing an integrated regulatory approach to food safety and a framework for the trade in safe food.

In conjunction with CARPHA and PAHO, workshops were held and Climate Resilient National Food and Water Safety Plans were developed. The workshops provided an opportunity to assess the current hazards and vulnerabilities and the capacity of national institutions to address the risks to both water and food safety. Plans were also developed for assessing the effectiveness of measures taken to mitigate the risks to water and food safety and define a schedule for reviewing and updating the Water Safety Plan and the Food Safety Plan in Barbados.

A project with the Food and Agriculture Organisation will engage the MHW utilising a Food Control Assessment Tool in January 2024. The tool's primary focus is the analysis of the

performance of competent authorities involved in food control. In the tool, the food chain is intended to cover the continuum from primary production up to the consumer.

Vector Control

The control and prevention of arbovirus diseases such as Dengue fever, Zika and Chikungunya continued with the adaptation of an Integrated Mosquito Vector Management Programme. There was increased community outreach and education. Emphasis was placed on source reduction by removing containers that had the potential to breed mosquitoes, fogging to destroy adult mosquitoes and the use of alternative compounds for the treatment of larvae. The programme continues to involve other government agencies, the private sector, civil society and communities to effectively manage the environment to break the transmission of Dengue fever, chikungunya and the Zika viruses.

The ovitrap programme continued to provide monitoring at the points of entry to detect the presence of the *Aedes aegypti* mosquito and other species. An ovitrap is a tool used to measure the circulation of Aedes mosquito in relation to time and location. These activities were to aid in the planning of programmes to reduce the mosquito house index to less than five per cent during the wet season. During the period October to December 2023 the house index average was 5.7 and coincided with a Dengue Fever outbreak. The mosquito house index is calculated as the percentage of the houses inspected in a defined area which are found with aquatic stages of mosquitoes. It is used as a measure for establishing the possibility of an outbreak.

The Caribbean Public Health Agency conducted training for twenty-one (21) Environmental Health Assistants on Integrated Vector Management (IVM) and Insecticide Resistance Testing (IRT). The workshop was conducted from August 28 to September 1, 2023. As a result of the workshop the CDC and CARPHA will facilitate a mosquito insecticide-resistance testing programme in Barbados. This activity has two components: ovi-trapping and insecticide-resistant

testing. The testing for resistance will be conducted in Barbados and samples will be sent to CARPHA for verification.

The Vector Control Unit had a structured inspection and rodent-baiting plan at all government buildings, healthcare institutions, schools, and farms as well as at the sea and airport. During the period, the Ministry intensified rodent baiting activities targeting specifically Bridgetown and its environs, and recreational areas across the island. Acute and anticoagulant bait were used to reduce the rodent population.

The Ministry of Health and Wellness continued a distribution service for rodenticide from the Vector Control Unit and the Environmental Health offices in the polyclinics. The following table shows the quantities distributed annually to the public on request. Table 44 shows the distribution of rodenticide, measured by the number of 100g packages provided in 2022 and 2023. In 2022, 25,060 packages of rodenticide were distributed, while in 2023, this amount decreased to 15,310 packages. This represents a reduction in distribution from 2022 to 2023.

Table 44: Distribution of Rodenticide

Quantity			2022	2023
No.	of	100g packages	25,060	15,310

The MHW continued to use the insectary-in-a-box, which was funded by the United States Agency for International Development (USAID) as part of the Zika Airt Project (ZAP) to facilitate insecticide resistance testing and mosquito species identification.

The Vector Control Unit used the Geographical Information System (GIS) in its mosquito and rodent control programmes. GIS is used to map the locations of mosquito-borne diseases,

mosquito larvae breeding, ovitraps, wetlands and rodent bait stations. The data gathered was used to determine areas for fogging and monitoring mosquito population density.

Climate Change and Health

The Climate Change and Health programme of the MHW aimed to develop appropriate adaptation and build a climate-resilient health care system. It also aimed to include climate change adaption strategies into the routine work of the Environmental Health Department (EHD) to minimize the impacts of vector, water and airborne diseases risks associated with climate phenomena. The SMART Hospitals standard for health care facilities developed through PAHO, represents one of the green resilient targets Barbados is aiming to achieve.

The development of climate and disaster resilience in healthcare facilities is a critical component of the development of the Ministry's Health National Adaptation Plans (HNAP). The HNAP was intended to be an important chapter in an overall National Adaptation Plan (NAP) for Barbados, which seeks to compile all critical services and sectors' plans for climate change.

In July 2022, PAHO commenced the execution of a wider vulnerability assessment of Barbados' potential health impacts caused by climate phenomena. The assessment included health care facilities and a wide range of areas including water quality and availability, air quality, sanitation, insect vectors and anti-microbial resistant threats. The climate change health impacts associated with these, and other parameters were identified resulting in the preparation of an HNAP in 2023.

The Ministry maintained a presence on several committees namely the South Coast Sewage Project Cabinet Sub-committee; Graeme Hall Swamp Technical Advisory Committee; and the Inter-Ministerial Technical Working Group on Rainwater Harvesting. These are important platforms which keep climate change and health issues on the national agenda and assist with maintaining partnerships in the interest of public health benefits. These responsibilities maintain

the Ministry's climate change and health programme presence at national regional and international levels in the interest of building capacity towards climate resilience.

The Water Reuse Act 2023 provides for the capture, collection, treatment and reuse of wastewater to be used for various purposes. The licensing process commenced in November 2023 and seven facilities were inspected and five recommended to receive permits for water reuse. The water reuse licensing programme will be a priority for 2024 with increased monitoring of commercial and tourism properties to ensure health risks are minimised and adherence to the legislation. Additionally, a public education campaign surrounding the legislation will be rolled out to support the licensing programme.

International Health Regulations

Today's high traffic at airports, ports and ground crossings can play a key role in the international spread of diseases through persons, conveyances and goods. The MHW continued to strengthen the Port Health programme to ensure that Barbados complied with the International Health Regulations, 2005, to protect the local population and visitors from diseases or health risks associated with travel and trade. Infection Prevention and Control Training was conducted for all stakeholders at the ports of entry.

Water Quality

Potable water is monitored to identify and manage waterborne disease hazards and risks to protect the public's health. Water is sampled for testing for chlorine residual and the presence of pathogenic bacteria. The WHO guideline for potable water quality is used to determine that Barbados' water complies. The WHO guideline for drinking water indicates that the main parameters, pseudomonas, total coliform, enterococci and faecal coliform must all be detectable at <1 mg/l for the sample to be deemed satisfactory or potable. A residual concentration of free chlorine greater than or equal to 0.5 mg/litre is adequate.

The MHW conducted water sampling weekly throughout the island. Laboratory analysis of water samples taken throughout the country's distribution system is conducted at the BDSPHL. The BDSPHL was able to analyse 1,408 potable water samples (BWA and Bottled water) and 3,182 samples for raw water, environmental, swimming pools and process water.

Waste Management

Illegal dumping of waste was a significant challenge with an increase in unlawful dumping sites being identified or in some instances the creation of temporary locations, due to the non-collection of refuse within a specified time. This issue impacted communities with an increase in rodent and mosquito infestation.

The MHW continued its collaboration with the Ministry of Agriculture, Food Security, and Water Resource Management and other stakeholders to regulate the coconut vending sector. The disposal of coconut shells continued to be problematic and the MHW facilitated training sessions on best practices in handling coconuts as a food product, as well as the procedure for disposing of the coconut shells for coconut vendors.

The Environmental Sanitation Unit provided solutions for 88 households to prevent the possibility of indiscriminate disposal of human waste, as a temporary solution until water-borne systems are constructed.

Port Health Services

The Environmental Health Department, continued to provide a range of Port Health services at Barbados' points of entry (seaport, airport & marinas). These services include the inspection of imported foods, the identification and destruction of foods unfit for human consumption, the granting of free pratique (clearance) of vessels and aircraft arriving at the points of entry, the clearance of imported human remains and cremated remains and the inspection of ships for the issuance of sanitation certificates.

Imported Food Inspection

Environmental Health Officers stationed at the points of entry continued to inspect foods imported into Barbados. These foods include meats, poultry, fish, beverages, bottled water and fresh fruits and vegetables. Foods, which were fit for human consumption were released, while foods which were unfit for human consumption were condemned and destroyed. Port Health continues to use the Barbados Customs and Excise Department electronic system ASYCUDA World for the clearance of imported foods. However, Environmental Health Officers do physical checks before releasing foods in this system. Table 45 provides data on the quantity of imported food inspected at points of entry and the amounts released as wholesome or condemned in 2022 and 2023.

Table 45: Quantity of Imported Food Inspected and Condemned at Points of Entry

Food Inspected	2022	2023
Wholesome Food Released (Kg)	135,228,533	129,892,738
Food Condemned (kg)	156,423	566,536
Total Food Imported Inspected (kg)	135,384,956	130,459,274

Boarding of Vessels and Disease Surveillance

The boarding and clearance of vessels arriving at the Bridgetown Port and Port St Chales marina is a significant aspect of the Port Health service in regard to disease surveillance. The types of vessels cleared included cargo vessels, cruise ships, fuel tankers and yachts. Table 46 identifies the vessels which were granted free pratique for 2022 & 2023.

Table 46: Type of Vessels granted Free Pratique 2022-2023

	2022	2023
Cruise Vessels	322	373
Cargo	714	526
Oil & Gas Tankers	162	374
Yachts (Bridgetown)	329	241
Yachts (Port St. Charles)	57	279
Totals	1584	1793

Boarding of Aircraft at the Airport for Disease Surveillance

The clearance of aircraft was carried out at the airport. From January to November this was done physically, however by December 2023, Port Health had implemented an electronic clearance procedure. This e-clearance will continue into 2024. Table 47 details the types and numbers of aircraft arriving at the Grantley Adams International Airport (GAIA) in 2023. Altogether, these arrivals sum up to a total of 15,700 aircrafts landing at GAIA in 2023.

Table 47: Aircrafts Arriving at GAIA 2023

Passenger/Commercial Flights	9841
Private & Cargo Flights	4,129
Air to Sea Flights	547
Private Jet Centre Flights	1,183
TOTAL	15,700

Ship Sanitation Inspection

The Ship Sanitation Control/Exemption Certificate inspection programme continued with the inspection of vessels requiring certification. This programme audits conditions on board ships in relation to food safety, medical facilities, and integrated pest management and hospitality services to ensure compliance with international standards. Table 48 below summarises the activities of this inspection programme.

Table 48: Ship Sanitation Inspections

SHIP SANITATION INSPECTION						
YEAR	Cargo	Cruise Vessels	Yacht	Oil & Gas Tankers	Other Vessels	Total No. Vessels
2023	19	12	1	8	8	47

HEALTH AND INTERNATIONAL COOPERATION

During the period January- December 2023, under the framework of the PAHO Biennial Programme 2022-2023 the MHW continued to collaborate with PAHO to address the health needs of the population and to manage the challenges facing the health sector. Areas of collaboration during the period under review included:

Technical Assistance

Mass Casualty Management

During 2023, the Ministry sought to strengthen its disaster preparedness response programme. In this regard training was conducted for 50 persons. The objective of the training was to build Mass Casualty Management (MCM) capacity among responding agencies, thus enabling safe, timely and effective rescue operations.

Basic Life Support

Training in Basic Life Support was also provided for 33 persons in the Geriatric setting. The aim of the training was to enhance the skills of officers to respond to and manage a first aid or sudden cardiac emergency, or other life-threatening condition.

Infection Prevention and Control

Infection Prevention and Control training was also provided for four persons. The training will serve to enhance the Ministry's ability to formulate, implement and manage effective infection control strategies in healthcare facilities.

Crisis Intervention

The MHW continued its efforts to strengthen its Mental Health programme, by establishing a Mental Health Hotline. In this regard the Ministry in collaboration with PAHO, trained fourteen Hotline Operators in crisis intervention techniques. It is anticipated that the hotline will provide emotional support and crisis intervention services to the public of Barbados.

Psychological First Aid

Training was also conducted in Psychological First Aid for 160 persons. The aim of the training is to provide first responders and the wider community with psychological first aid skills to help persons in a humane and supportive way post disaster. Another partnership with the Barbados Red Cross Society aims to train an additional 160 people by April 2024.

Mental Health Gap Action Programme (mhGAP) Training

PAHO conducted mhGAP Trainer of Trainers courses to upskill Primary Health Care clinicians in mental health management. This training ensures mental health expertise is spread throughout the healthcare system, improving community-level mental health care. The persons trained include doctors, nurses, and pharmacists.

Training for Media Professionals

PAHO hosted a workshop for media professionals on responsible reporting of suicide and supporting related initiatives. The workshop aimed to create consensus on ethical guidelines for suicide reporting. Plans are also in place to train the Barbados Police Service on the type of information shared with media houses.

Healthy Schools Physical Activity Project

The Health Promotion Unit in collaboration with the NCD Department and supported by PAHO, embarked on a ‘Creative Play’ initiative, incorporating various playground designs and activities to encourage children to move more within their schools. PAHO provided funding to support the production of two play areas at two primary schools.

15th Caribbean Conference on National Health Financing Initiatives

The 15th Caribbean Conference on National Financing Initiatives is a four-day event hosted by the University of the West Indies, Health Economics Unit, St. Augustine. The theme for the conference was ‘Health Financing in the Caribbean: Optimising Efficiency in Governance and Public-Private Partnerships’. The MHW was invited to present on ‘Contracting Private Providers for specialist care in Barbados, with particular emphasis on dialysis services. The presentation was well received, and the information was disseminated to all stakeholders.

APPENDIX I

Table 49: Mortality Data for 2023

Code	Gender	<1y	1-4y	5-14y	15-24y	25-44y	45-64y	65y+	TOTAL
0.00	<i>Symptoms, signs and ill-defined conditions</i>								
	Male	0	0	0	1	3	8	21	33
	Female	0	0	1	0	1	1	29	32
	Total (0.00)	0	0	1	1	4	9	50	65
1.01	<i>intestinal Infectious diseases</i>								
	Male	0	0	0	0	0	2	5	7
	Female	0	0	0	0	1	1	6	8
		0	0	0	0	1	3	11	15
1.03	<i>Certain vector-borne diseases and rabies</i>								
	Male	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
1.04	<i>Certain diseases preventable by immunization</i>								
	Male	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0
	Total (1.04)	0	0	0	0	0	0	0	0
1.05	<i>Meningitis</i>								
	Male	0	0	0	0	0	0	2	2
	Female	0	0	0	0	0	0	1	1
		0	0	0	0	0	0	3	3
1.06	<i>Septicemia, except neonatal</i>								
	Male	0	0	0	0	0	5	24	29
	Female	0	0	0	0	1	4	26	31
	Total (1.06)	0	0	0	0	1	9	50	60
1.07	<i>HIV disease (AIDS)</i>								
	Male	0	0	0	0	0	2	0	2
	Female	0	0	0	0	1	0	0	1
	Total (1.07)	0	0	0	0	1	2	0	3
1.08	<i>Acute respiratory infection</i>								
	Male	0	0	0	0	2	9	109	120
	Female	0	0	0	0	1	3	101	105
	Total (1.08)	0	0	0	0	3	12	210	225
1.09	<i>Other infectious and parasitic diseases</i>								
	Male	0	0	0	0	0	1	8	9
	Female	0	0	0	0	1	1	7	9

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	Total (1.09)	0	0	0	0	1	2	15	18
2.01	<i>Malignant neoplasm of stomach</i>								
	Male	0	0	0	0	0	5	8	13
	Female	0	0	0	0	1	2	6	9
	Total (2.01)	0	0	0	0	1	7	14	22
2.02	<i>Malignant neoplasm of colon and rectosigmoid junction</i>								
	Male	0	0	0	0	1	15	41	57
	Female	0	0	0	0	0	12	38	50
	Total (2.02)	0	0	0	0	1	27	79	107
2.03	<i>Malignant neoplasm of digestive organs and peritoneum, except stomach and colon</i>								
	Male	0	0	0	0	0	15	36	51
	Female	0	0	0	0	0	12	29	41
	Total (2.03)	0	0	0	0	0	27	65	92
2.04	<i>Malignant neoplasm of trachea, bronchus and lung</i>								
	Male	0	0	0	0	0	8	12	20
	Female	0	0	0	0	0	2	4	6
	Total (2.04)	0	0	0	0	0	10	16	26
2.05	<i>Malignant neoplasm of respiratory and intrathoracic organs, except trachea, bronchus and lung</i>								
	Male	0	0	0	0	0	1	2	3
	Female	0	0	0	1	0	0	1	2
	Total (2.05)	0	0	0	1	0	1	3	5
2.06	<i>Malignant neoplasm of breast</i>								
	Male	0	0	0	0	1	1	1	3
	Female	0	0	0	0	6	40	66	112
	Total (2.06)	0	0	0	0	7	41	67	115
2.07	<i>Malignant neoplasm of cervix uteri</i>								
	Female	0	0	0	0	1	3	3	7
	Total (2.07)	0	0	0	0	1	3	3	7
2.08	<i>Malignant neoplasm of other and unspecified parts of uterus</i>								
	Female	0	0	0	0	0	11	27	38
	Total (2.08)	0	0	0	0	0	11	27	38
2.10	<i>Malignant neoplasm of prostate</i>								
	Male	0	0	0	0	0	16	127	143

	Total (2.10)	0	0	0	0	0	16	127	143
2.11	<i>Malignant neoplasm of bladder & other genitourinary organs</i>								
	Male	0	0	0	0	0	0	1	1
	Female	0	0	0	0	0	7	9	16
	Total (2.11)	0	0	0	0	0	7	10	17
2.12	<i>Leukemia</i>								
	Male	0	0	0	0	1	2	3	6
	Female	0	0	0	0	1	2	1	4
	Total (2.12)	0	0	0	0	2	4	4	10
2.13	<i>Malignant neoplasm of lymphoid, other hematopoietic and related tissue</i>								
	Male	0	0	0	1	2	5	13	21
	Female	0	0	0	0	1	5	19	25
	Total (2.13)	0	0	0	1	3	10	32	46
2.14	<i>Malignant neoplasm of other and unspecified sites</i>								
	Male	0	0	0	0	3	8	37	48
	Female	0	1	0	0	2	14	34	51
	Total (2.14)	0	1	0	0	5	22	71	99
2.15	<i>Carcinoma in situ, benign neoplasms and neoplasms of uncertain or unknown behavior</i>								
	Male	0	0	0	0	0	0	7	7
	Female	0	0	0	0	2	6	8	16
	Total (2.15)	0	0	0	0	2	6	15	23
3.01	<i>Acute rheumatic fever and chronic rheumatic heart diseases</i>								
	Male	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	1	1
	Total (3.01)	0	0	0	0	0	0	1	1
3.02	<i>Hypertensive diseases</i>								
	Male	0	0	0	0	1	25	78	104
	Female	0	0	0	0	0	5	112	117
	Total (3.02)	0	0	0	0	1	30	190	221
3.03	<i>Ischemic heart diseases</i>								
	Male	0	0	0	0	3	31	65	99
	Female	0	1	0	0	2	11	81	95
	Total (3.03)	0	1	0	0	5	42	146	194

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3.04	<i>Pulmonary heart disease, diseases of pulmonary circulation and other forms of heart disease</i>								
	Male	0	0	1	0	5	36	74	116
	Female	1	0	0	0	9	24	80	114
	Total (3.04)	1	0	1	0	14	60	154	230
3.07	<i>Cerebrovascular diseases</i>								
	Male	1	0	0	0	2	32	61	128
	Female	0	0	0	0	3	8	127	113
	Total (3.07)	1	0	0	0	5	40	188	241
3.09	<i>All other diseases of the circulatory system</i>								
	Male	0	0	0	0	1	6	4	11
	Female	0	0	0	0	0	0	11	11
	Total (3.09)	0	0	0	0	1	6	15	22
4.02	<i>Fetus and Newborn affected by obstetric complications, birth trauma</i>								
	Male	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0
	Total (4.02)	0	0	0	0	0	0	0	0
4.03	<i>Slow fetal growth, fetal malnutrition and immaturity</i>								
	Male	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0
	Total (4.04)	0	0	0	0	0	0	0	0
4.04	<i>Respiratory disorders specific to the perinatal period</i>								
	Male	1	0	0	0	0	0	0	1
	Female	2	0	0	0	0	0	0	2
	Total (4.04)	3	0	0	0	0	0	0	3
4.05	<i>Bacterial sepsis of newborn</i>								
	Male	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0
	Total (4.05)	0	0	0	0	0	0	0	0
4.06	<i>Remainder of certain conditions originating in the perinatal period</i>								
	Male	1	0	0	0	0	0	0	1
	Female	0	0	0	0	0	0	0	0

Total	-4.06	1	0	0	0	0	0	0	1
5.01	<i>Motor Vehicle Traffic Accidents</i>								
	Male	0	0	0	0	6	5	2	13
	Female	0	0	0	1	0	0	0	1
	Total (5.01)	0	0	0	1	6	5	2	14
5.03	<i>Falls</i>								
	Male	0	0	0	0	0	3	3	6
	Female	0	0	0	0	0	1	3	4
	Total (5.03)	0	0	0	0	0	4	6	10
5.04	<i>Accidents caused by firearms discharge</i>								
	Male	0	0	0	0	0	0	1	1
	Female	0	0	0	0	0	0	0	0
	Total (5.03)	0	0	0	0	0	0	1	1
5.05	<i>Accidental drowning and submersion</i>								
	Male	0	0	0	1	0	4	8	13
	Female	0	0	0	0	0	1	2	3
	Total (5.03)	0	0	0	1	0	5	10	16
5.06	<i>Accidental threats to breathing</i>								
	Male	0	0	0	2	3	7	4	16
	Female	0	0	0	1	0	1	0	2
	Total (5.06)	0	0	0	3	3	8	4	18
5.08	<i>Exposure to smoke, fire & flames</i>								
	Male	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0
	Total (5.09)	0	0	0	0	0	0	0	0
5.09	<i>Accidental poisoning by and exposure to noxious substances</i>								
	Male	0	0	0	0	0	1	1	2
	Female	0	0	0	0	1	0	0	1
	Total (5.09)	0	0	0	0	1	1	1	3
5.10	<i>All other accidents</i>								
	Male	0	0	0	0	0	0	2	2
	Female	0	0	0	0	0	0	1	1
	Total (5.10)	0	0	0	0	0	0	3	3
5.12	<i>Assault (homicide)</i>								
	Male	0	0	1	4	2	1	0	8

	Female	0	0	0	0	2	0	0	2
	Total (5.12)	0	0	1	4	4	1	0	10
5.13	<i>Events of undetermined intent</i>								
	Male	0	0	0	0	1	2	0	3
	Female	0	0	0	0	0	0	0	0
	Total (5.13)	0	0	0	0	1	2	0	3
6.01	<i>Diabetes mellitus</i>								
	Male	0	0	0	0	0	10	110	120
	Female	0	0	0	0	3	22	167	192
	Total (6.01)	0	0	0	0	3	32	277	312
6.02	<i>Nutritional deficiencies and anaemias</i>								
	Male	0	0	0	0	1	3	8	12
	Female	0	0	0	1	0	2	10	13
	Total (6.02)	0	0	0	1	1	5	18	25
6.03	<i>Mental and behavioral disorders</i>								
	Male	0	0	0	0	0	0	2	2
	Female	0	0	0	0	0	0	3	3
	Total (6.03)	0	0	0	0	0	0	5	5
6.04	<i>Diseases of the nervous system, except meningitis</i>								
	Male	0	0	0	4	3	9	28	44
	Female	0	0	0	1	2	5	21	29
	Total (6.04)	0	0	0	5	5	14	49	73
6.05	<i>Chronic lower respiratory diseases</i>								
	Male	0	0	0	0	0	1	12	13
	Female	0	0	0	0	1	3	9	13
	Total (6.05)	0	0	0	0	1	4	21	26
6.06	<i>Remainder of diseases of the respiratory system</i>								
	Male	0	0	3	3	3	17	80	106
	Female	0	0	2	2	0	2	102	108
	Total (6.06)	0	0	5	5	3	19	182	214
6.07	<i>Appendicitis, hernia of abdominal cavity and intestinal obstruction</i>								
	Male	0	0	0	0	0	1	9	10
	Female	0	0	0	0	0	3	15	18
	Total (6.07)	0	0	0	0	0	4	24	28

6.08	<i>Cirrhosis and certain other chronic diseases of liver</i>								
	Male	0	0	0	0	1	6	8	15
	Female	0	0	0	0	0	3	6	9
	Total (6.08)	0	0	0	0	1	9	14	24
6.09	<i>All other diseases of the digestive system</i>								
	Male	0	0	0	0	0	7	45	52
	Female	0	0	0	0	1	7	42	50
	Total (6.09)	0	0	0	0	1	14	87	102
6.10	<i>Diseases of the urinary system</i>								
	Male	0	0	0	1	3	17	72	93
	Female	0	0	0	0	1	8	70	79
	Total (6.10)	0	0	0	1	4	25	142	172
6.11	<i>Hyperplasia of prostate</i>								
	Male	0	0	0	0	0	0	28	28
	Total (6.11)	0	0	0	0	0	0	28	28
6.12	<i>Pregnancy, childbirth and the puerperium</i>								
	Female	0	0	0	1	3	0	0	4
	Total (6.12)								
6.13	<i>Congenital malformations, deformations and chromosomal abnormaliti</i>								
	Male	1	1	0	0	0	2	0	4
	Female	1	0	0	0	1	1	0	3
	Total (6.13)	2	1	0	0	1	3	0	7
6.15	<i>Remainder of all other diseases</i>								
	Male	0	0	0	3	3	17	48	71
	Female	0	0	0	2	3	14	50	69
	Total (6.15)	0	0	0	5	6	31	98	140
Totals:	Male	4	1	16	20	26	309	1293	1669
	Female	3	2	1	10	46	283	1286	1631
	Totals 0.00 - 6.15	7	3	17	30	72	592	2579	3300
	GRAND TOTAL	7	3	17	30	72	592	2507	3300

APPENDIX II

Table 50: Deliveries at the Queen Elizabeth Hospital 2021 - 2023

Number of Deliveries			
Age Group in Years	2021	2022	2023
< 15	5	1	3
15 – 19	160	143	154
20 -24	515	441	495
25 -29	510	513	517
30 -34	497	439	464
35 – 39	337	293	323
40+	111	103	115
Total	2135	1933	2071

Data source: Medical Records Department

APPENDIX III

Table 51: Termination of Pregnancies at the Queen Elizabeth Hospital 2021 - 2023

Number of Termination of Pregnancies			
Age Group in Years	2021	2022	2023
< 15	0	1	0
15 – 19	27	20	17
20 -24	66	47	79
25 -29	91	47	46
30 -34	37	44	41
35 – 39	26	30	33
40+	16	15	20
Total	263	204	236

Data source: Medical Records Department

APPENDIX IV

Table 52: Barbados Family Planning Association Year 2023

BARBADOS FAMILY PLANNING ASSOCIATION YEAR 2023													
DATA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ORAL	1	0	5	5	5	0	3	3	2	1	2	0	27
IUCD	3	0	2	0	0	3	0	1	0	0	0	0	9
CONDOM	0	0	0	0	0	0	1	0	0	0	0	0	1
INJECTION	7	7	6	5	2	2	1	9	6	1	7	4	57
OTHER	0	0	0	0	0	0	1	0	1	0	0	0	2
MEDICAL SERVICES	70	81	100	64	0	20	67	109	130	87	70	36	834
NEW CLIENT TOTAL	81	88	113	74	98	25	73	122	139	89	79	40	1021
OLD CLIENT TOTAL	457	378	459	429	495	253	414	432	453	324	429	416	4939
TOTAL ATTENDANCE	538	466	572	503	593	278	487	554	592	411	508	456	5958
AGE GROUP <19	5	12	13	14	20	3	7	13	25	9	7	7	135
20-24	11	13	24	15	22	7	17	20	15	20	18	6	188
25-29	16	15	16	18	10	3	10	11	15	15	15	10	154
30-34	14	11	17	5	7	4	10	14	18	14	12	4	130
35-39	8	6	14	5	9	0	4	18	11	14	9	5	103
40-44	5	9	17	0	10	3	4	12	11	2	5	0	78
45+	22	22	0	17	15	5	21	34	44	15	13	8	216
NO. RESPONSES	0	0	0	0	0	0	0	0	0	0	0	0	0
NONE	3	3	2	74	7	0	1	11	7	30	21	5	164
ONE	4	4	3	5	1	0	4	3	2	9	6	3	44
TWO	1	0	5	5	2	0	0	6	7	8	1	2	37
THREE	1	2	1	7	0	0	0	1	3	0	3	0	18
FOUR	2	1	0	1	0	0	0	0	0	0	0	0	4
FIVE	0	0	0	1	0	0	0	0	0	0	0	0	1
SIX	0	0	0	0	0	0	1	0	0	0	0	0	1
NO. RESPONSE	70	78	102	55	88	25	67	101	120	42	48	30	826
TOTAL	81	88	113	74	98	25	73	122	139	89	79	40	1021
MINOR PROCEDURES	0	0	0	0	2	0	0	0	0	0	0	0	2
CIRCUMCISION	2	1	4	4	3	0	0	0	1	3	0	0	18
PROSTATE CHECKS	1	0	0	0	1	0	1	0	10	1	2	0	16
HERNIA REPAIRS	3	3	0	5	2	0	0	0	0	0	0	2	15
VASCETOMIES	0	0	0	1	0	0	0	0	0	1	0	0	2

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MEDICAL SERVICES	44	48	71	54	80	30	79	37	72	84	68	68	735
MALE TOTAL	50	51	75	64	88	30	80	87	83	89	70	70	837
	BARBADOS FAMILY PLANNING ASSOCIATION YEAR 2023												
DATA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
NEW													
OLD													
PAPS SMEAR	56	51	44	35	52	7	46	55	79	42	44	16	527
COLPOSCOPY	2	2	3	1	0	0	0	2	0	0	1	0	11
CRYO SURGERIES	1	2	3	1	1	1	0	0	1	0	1	0	11
PIPELLES	1	2	0	0	0	0	3	0	0	1	1	1	9
LOOP CONE BIOPSY	1	0	1	2	2	0	0	0	0	0	0	1	7
BARTHOLINS	0	0	0	1	0	0	0	0	0	0	0	0	1
ULTRASOUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0
POLYPECTOMY	0	0	0	0	0	0	0	0	0	1	1	0	2
VULVA BIOPSY	0	0	0	0	0	0	0	0	0	0	0	0	0
Sebaceous Cyst	0	0	1	0	0	0	0	0	0	0	0	0	1
D&C	0	0	1	0	0	0	0	0	0	1	0	0	2
REMOVAL of LIPOMA	0	0	0	0	2	0	0	0	0	0	0	0	2
HERNIA REPAIR	0	0	0	0	3	0	0	0	0	0	0	0	3
FEMALE TOTAL	65	57	53	40	58	8	49	57	80	45	48	18	578

APPENDIX

V

Queen Elizabeth Hospital

Table 53: Breast, Cervix, Prostate Colon and Endometrium Cancers Referrals by Age - 2023

Age Range (Yrs)	Breast	Cervix	Prostate	Colon (male)	Colon (female)	Colon (Total)	Endometrium
< 20	0	-	-	-	-	-	-
20 – 29	0	-	-	-	-	-	-
30 – 39	8	1	-	-	-	-	-
40 – 49	16	2	1	2	6	8	2
50 – 59	34	4	1	5	10	15	6
60 – 69	46	2	19	12	14	26	20
70 - 79	19	1	26	10	8	18	11
80 – 89	8	1	3	2	1	3	3
> 89	-	-	-	-	-	-	-
Totals	131	11	50	31	39	70	42

Data source: Department of Radiotherapy

Table 54: Malignant Referrals by Country - 2023

Country	No. of Referrals
Barbados	481
Canada	1
Guyana	1
Total	483

Table 55: Overseas Malignant Referrals by Sex and Site - 2023

Country	Site	Male	Female	Total
Canada	Unknown	-	1	1
	Primary			
Guyana	Keloid	1	-	1
Totals		1	1	2

Data source: Department of Radiotherapy

Table 56: Radiotherapy Treatments - 2023

Treatment	Frequency
Patients Treated on Cobalt Unit	86
Treatment Sessions on Cobalt Unit	1572

Radiation fields treated on Cobalt Unit	4586
Patients treated on Deep X-ray Unit	4
Primary sites treated on Deep X-ray Unit	4
Treatment sessions on Deep X-ray Unit	18
Radiation fields treated on Deep X-ray Unit	23
Patients treated on Superficial X-ray Unit	5
Primary sites treated on Superficial X-ray Unit	5
Treatment sessions on Superficial X-ray Unit	29
Radiation fields treated on Superficial X-ray Unit	29
Brachytherapy Insertions	3
External Beam treatment Planning Localization CTs	51
Brachytherapy treatment Planning Localization CTs	3

Data source: Department of Radiotherapy

Table 57: Out-patient Clinic Utilization - 2023

Out-patient Attendances	7533
New Patient Referrals	482
New Patient Consultations	294
Patient Admissions; Chemotherapy	91
Patients Admissions: General	41
Chemotherapy Admissions IV	934
Injections Intramuscular	105
Injections Subcutaneous	427
IV Administrations	293
IV Hydrations	7
Oral Medications	14
Dressings	22
Chest and Abdominal Aspirations	61
Catherizations	2
Blood Transfusions	55

Data source: Department of Radiotherapy

Table 58: Deaths by service 2023

MONTH	MEDICINE	SURGERY	E.N.T	ORTHOAEDIC	GYNAECOLOGY	RADIO THERAPY	PAEDIATRIC MEDICAL	PAEDIATRIC SURGICAL	NURSERY (N)	NURSERY (S)	TOTAL DEATHS	STILL BIRTHS	NEONATES	INFANTS	MATERNAL	UNDER 24HRS	HOSPITAL DAYS	AVERAGE STAY
JAN	57	22		1		5	2		1		88		1	1		14	1675	19.0
FEB	57	19		1		2	1				80	2		1		12	1148	14.4
MAR	64	21		1		9			2		97		2	2		13	1902	19.6
APR	46	18		2		6			1		73	1	1	1		9	1249	17.1
MAY	61	33		2	1	9					106	2			1	17	1515	14.3
JUN	69	21	3		1	5					99	1				12	1976	20.0
JUL	62	23		1		4			1		91	3	1	1	1	15	1158	12.7
AUG	68	16		2	2	5		1	3		97	1	3	3		20	2029	20.9
SEP	60	23			1	7			2		93	1	2	2		11	1460	15.7
OCT	64	28	1	2		6	1		2		104	1	2	2		22	1304	12.5
NOV	50	20	2	0	2	10	2		2		88	3	2	3	2	9	1188	13.5
DEC	60	16		7	1	3	1			1	89	3	1	1		21	1397	15.7
TOTAL	718	260	6	19	8	71	7	1	14	1	1105	18	15	17	4	175	1802 1	16.3

APPENDIX F

Psychiatric Hospital Barbados

Table 59: Out-Patient Attendances and Visits 2023

Age Category	New		1st Visit for Year		1st Visits for Month		Revisits		Totals	
	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	0	0	0	0	0
1-17	0	0	0	0	0	0	0	0	0	0
18-25	48	53	16	9	587	403	288	232	939	697
26-35	37	40	21	21	833	470	482	282	1373	813
36-45	31	27	18	17	865	543	458	234	1372	821
46-55	10	12	7	16	685	580	358	247	1060	855
56-65	10	14	12	17	647	678	297	307	966	1016
66-75	7	15	1	5	332	489	125	152	465	661
>75	5	6	0	2	144	86	49	21	198	115
Sub-totals	148	167	75	77	4093	3249	2057	1475	6373	4968
2023 Totals	315		152		7342		3532		11341	
2022 Totals	154		856		N/A*		12937		13093	

GLOSSARY/DEFINITIONS

Age-Specific Death Rate – The total number of deaths occurring in a specific age group of the population in a year per estimated population of the same age group in the same year. The age-specific death rate measures the risk of death among persons in a specific age group.

Crude Birth Rate – The number of live births per year per 1,000 mid-year population. The crude birth rate indicates the magnitude of the fertility level.

Crude Death Rate – The total number of deaths due to all causes occurring in a year per 1,000 mid-year population. The crude death rate is a measure of the frequency at which deaths from all causes are occurring in the population during a specific period.

Infant Mortality Rate – The infant mortality rate measures the risk of death occurring during infancy. I.e. The probability.

Life Expectancy at Birth – The number of years a newborn baby is expected to live, given the prevailing mortality conditions in the population.

Maternal Mortality Ratio – The total number of female deaths due to complications of pregnancy, childbirth and the puerperium in a year per total number of live births in the same year. The maternal mortality ratio measures the risk of women dying from maternal causes.

Natural Increase Rate – The rate of natural increase refers to the difference between the number of live births and the number of deaths occurring in a year, divided by the mid-year population of that year, multiple by 1000.

Neonatal Death Rate – The number of infant deaths occurring before the 28th day of life per total live birth occurring during a given year. The neonatal death rate measures the risk of an infant dying within 28 days of birth.

Perinatal Death Rate – The number of perinatal deaths occurring in a year per total number of live births and stillbirths occurring in the same year. The number of perinatal deaths is equal to the sum of the stillbirths and the number of infant deaths that occur under one week of age. The perinatal death rate is a measure of the risk of death occurring either during pregnancy after the 28th week of gestation or within one week after delivery.

Still Birth Rate – The number of stillbirths occurring in a year per total number of live births and stillbirths occurring in the same year. A stillbirth is a foetal death that occurs after the 28th week of gestation.

Total Fertility Rate – The expected average number of children that would be born to a woman in her lifetime, if she were to pass through her childbearing years experiencing the age-specific fertility rates prevailing in a given year/period for a given country. It is calculated as the sum of age-specific fertility rates (referring to women ages 15-49 years) times the sum of data given in year age groups.

Years of Protective Life Lost (YPLL) - Provides an estimate of the number of years of lives lost prematurely. It is the number of years of life lost by persons who die before 65 years of age.

Abbreviations

BMCLA – Barbados Medical Cannabis Licensing Authority

BNSI - Barbados National Standards Institute

CARPHA – The Caribbean Public Health Agency

MQCSD – Medicines Quality Control and Surveillance Department

NCSA – National Council on Substance Abuse

PPP – Private Participating Pharmacies

Uppsala - *Uppsala* Monitoring Centre (UMC) is an independent Centre for drug safety and scientific research