



# **Annual Report**

**of**

**The Operations of The  
Barbados Drug Service**

**For Fiscal Year  
April 1, 2018- March 31, 2019**

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## LIST OF ABBREVIATIONS

ADR(s)	Adverse Drug Reaction(s)
AND	St. Andrew Out-Patients Clinic
BDS	Barbados Drug Service
BDSPTS	Barbados Drug Service Pharmacy Service
BLR	Branford Taitt Polyclinic
BNDF	Barbados National Drug Formulary
CARPHA	Caribbean Public Health Agency
CRS	Caribbean Regulatory System
DFC	Drug Formulary Committee
DFCs	Duty free certificates
DI	Drug Inspectorate
DIC	Drug Information Centre
D&TC	Drug and Therapeutics Committee
EDC	Edgar Cochrane Polyclinic
EXP	Expenditure
ESW	Electronic Single Window
FM	Financial Management
GER	Geriatric Hospital
GLE	Glebe Polyclinic
ID	Identification card
INCB	International Narcotic Control Board
JON	David Thompson Health & Social Services Centre
JOS	St. Joseph Out-Patients Clinic
MBY	Maurice Byer Polyclinic
MPC	Maximum Price Contract
NGO	Non-Governmental Organisations
NRA/RR	National Regulatory Authority of Regional Reference
PPP	Private Participating Pharmacies
PSY	Psychiatric Hospital
PV	Pharmacovigilance
QEH	Queen Elizabeth Hospital
RAP	Randal Phillips Polyclinic
SADs	Specially Authorised Drugs
SBS	Special Benefit Service
SIS	Supply and Inventory Service
SIX	St. Philip Polyclinic
SPH	St. Philip District Hospital
SWS	Winston Scott Polyclinic
THO	St. Thomas Out-Patients Clinic
VAT	Value added Tax
WAR	Eunice Gibson Polyclinic
WHO	World Health Organisation

## 1.0 Executive Summary

### 1.1 HISTORIC OVERVIEW

The Barbados Drug Service (BDS) was established in 1980, as the national regulatory agency on pharmaceuticals with responsibilities for the selection, procurement, distribution, utilization and monitoring of formulary drugs and other narcotic and controlled drugs.

The BDS seeks to ensure that the pharmaceutical profession in Barbados is maintained in a safe, efficient, accessible, and well-regulated environment, to achieve optimum patient care and service provision at all times. This includes providing a continuous supply of quality formulary drugs at a reasonable cost to all Government healthcare institutions and the Private Participating Pharmacies (PPP), rationalising their use, and strengthening the inventory and general management systems of the Government pharmacies. These functions span the selection, procurement, distribution and utilisation of formulary drugs; providing beneficiaries with drugs free of cost at point of service in both the public and private sectors; preparing, maintaining and updating the Barbados National Drug Formulary (BNDF); monitoring and controlling the importation, exportation and use of the narcotic and psychotropic drugs as set out under the Narcotic and Psychotropic Conventions of 1961 and 1971 respectively; and providing information on drugs and related items to all health care professionals and the general public in Barbados and other CARICOM countries.

The mission of the Barbados Drug Service, "To provide quality pharmaceuticals to all residents of Barbados at an affordable price and to serve the beneficiaries in a courteous and efficient manner," is driven by the following key functions:

- (1) Barbados National Drug Formulary (BNDF),
- (2) Supply and Inventory Service (S&I),
- (3) Special Benefit Service (SBS),
- (4) Barbados Drug Service Pharmacy Service (BDSPS),
- (5) Drug Inspectorate (DI),
- (6) Drug Information Centre (DIC),
- (7) Pharmacovigilance (PV), and
- (8) Administration and Financial Management (AFM)

Supporting this work are 95 technical and support staff, working from the BDS headquarters at Warrens Towers II, St. Michael and 14 district pharmacies located in ten of the eleven parishes. In 1981, one year after the establishment of the BDS under the Drug Service Act 1980-58 and the Financial (Drug Service) Rules, 1980 its functions were expanded to contract private pharmacies to dispense to beneficiaries who are 65 years of age and over, children under 16 years of age, and person who receive prescribed formulary medicines for the treatment of hypertension, diabetes, and cancer. Epilepsy, asthma, and glaucoma were later added.

## 1.2 OVERVIEW OF THE 2018-19 FISCAL YEAR

With its mission always in focus, the BDS worked to execute its functions through achieving the goals set out in the BDS plans for Budget Year 2018-19. The BDS' goals for the 2018-19 fiscal year were focused on meeting its primary functions as well as the unmet 2017-18 target of strengthening the Information Technology (IT) capabilities within the organisation. The IT strengthening was to be achieved through (i) networking the 14 BDS public pharmacies and the Psychiatric Hospital pharmacy, to the Ministry of Health and Wellness Network; and (ii) replacing the dispensing module in the BDS pharmacies with the MedData software. This was initially scheduled to be completed in the 2017-18 fiscal year but the funds had to be rolled over to the 2018-19 period. Funds were committed and paid over in the 2018-19 period, to Populus, the software developers, but unfortunately no deliverables were attained.

The BDS however strived to achieve connectivity to the Ministry of Health & Wellness' Network for the remaining 12 public pharmacies in the 2018-19 fiscal year. Unfortunately, no further progress was made in that regard or with respect to commencing the use of the MedData software.

The Drug Formulary Committee continued to meet monthly to strengthen the pharmaceutical selection process through evidence-based guidelines. In this regard during the 2018-19 fiscal year, 29 drugs were deleted from the Barbados National Drug Formulary (BNDF) and 16 added.

The continuous supply of contracted generic formulary drugs was a challenge but the BDS worked with the local suppliers to minimize any critical out of stock situations by reverting to the branded alternatives where necessary. In this regard, the BDS continued its service of providing formulary pharmaceuticals to the public and private sectors. In the 2018-19 financial year, **649,363** prescriptions were dispensed at a cost of **\$6,464,335** by a monthly average of 98 Private Participating Pharmacies (PPP) under the SBS programme. Similarly, the 14 public pharmacies located in 9 polyclinics, 3 out-patient clinics and 2 district hospitals, dispensed **1,116,447** prescriptions at a cost of **\$8,830,556**.

BDS sought to maintain the quality of pharmaceutical drugs and the overall pharmacy service, by working assiduously with stakeholders through the drug inspectorate unit. Regular inspections were carried out on all pharmacies in accordance with the Pharmacy Act, CAP 372D under the dictate of the Pharmacy Council. In addition, the Drug Inspectorate unit, also carried out drug testing, the monitoring of narcotic and control drugs, and precursor chemicals as governed by the Narcotic and Psychotropic Conventions 1961 and 1971. The Pharmacovigilance unit though separate from the Drug Inspectorate section, continued to strengthen the quality assurance capacity of the BDS through the regional Pharmacovigilance Network, the international World Health Organisation's (WHO) VigiLyze database, and the ongoing continuing education programmes for stakeholders.

The BDS is mandated to protect the pharmaceutical care and management of the public, within the given resource base. In this regard, the patients as key stakeholders were empowered on the importance of good pharmaceutical care and ways to be intelligent and informed stewards of their health. Quarterly public lectures were therefore hosted by the BDS with germane health information provided by professional medical and paramedical specialists in the given topics. The public was also given the opportunity to engage the presenters and other stakeholders on the given topics.

The BDS continued to manage its financial resources to ensure that the needs of all stakeholders are met. In the 2018-19 fiscal year the BDS had an approved budget of \$28,086,892 with the actual expenditure being \$23,134,463. The drop in expenditure could primarily be attributed to the retrenchment exercise and the drop in personal emoluments. Furthermore, drugs not being delivered due to the unavailability by suppliers, had the ripple effect of funds being tied up in the system through encumbrances. The added challenge was that of the pharmacy module of the MedData software not being approved by the technical team for purchase due to deficiencies of some critical tools in the software.

The BDS knows the resources must be effectively managed on behalf of all Barbadians, who are the owners of these resources. In this regard every effort was made to assiduously safeguard the resources by ensuring that activities with the highest risks receive the greatest attention. Hence, the BDS in trying to effectively manage resource conservation and service performance, focused on maintaining optimal stock levels through alternative sources when the need arose. Though it was a mammoth task, and given the increased risks to the public, the BDS endeavored to maintain the provision of quality pharmaceuticals and services to all.

This includes fostering a culture of continuous learning and professional development among employees who can give back to the organisation increased productivity and efficiency. A learning and development culture encourages our staff to get better which will in turn make the BDS better. For us in establishing our employees, as key stakeholders, for success and growth within the organization, channels improved productivity and patient care for all.

Increased productivity and efficiency is seen as one of the strongest reasons to invest in continuing education for our staff. It is a simple concept: the more a person becomes skilled at their job, the more proficient and efficient they can become. The BDS is committed to improving the way forward for the organization and four continuing education programmes were conducted for staff in the year under review.

### 2.0 BDS FUNCTIONS

During the 2018-19 fiscal year the BDS continued to meet its objectives and serve the beneficiaries who have diabetes, hypertension, cancer, asthma, glaucoma and epilepsy, through the following eight administrative and regulatory functions:

- (1) The Barbados National Drug (BNDF)
- (2) The Supply and Inventory Section (S&I)
- (3) The Special Benefit Service (SBS)
- (4) The Barbados Drug Service Pharmacy Service (BDSPS)

- (5) The Drug Inspectorate (DI)
- (6) The Drug Information Centre (DIC)
- (7) Pharmacovigilance (PV); and
- (8) Administration and Financial Management (A&FM)

These functions spanned the public and private sectors and provided an enabling environment for service delivery to be optimally effective and efficient.

**Table 1: Beneficiaries of the Barbados Drug Service**

Groups Currently Covered (Beneficiaries)	Provision of Drugs and Related Items	
	Public Sector	Private Sector
1. Persons 65 years and over	Free drug cost and no added dispensing fee	* Free drug cost and patient pays the dispensing fee
2. Children under 16 years of age	Free drug cost and no added dispensing fee	* Free drug cost and patient pays the dispensing fee
3. Persons who receive prescribed formulary drugs for the treatment of hypertension, diabetes, cancer, epilepsy, glaucoma and asthma	Free drug cost and no added dispensing fee	* Free drug cost and patient pays the dispensing fee
4. Persons between 16 and 64 who are not included in 3 above	Free drug cost and no added dispensing fee	Patient pays drug cost** + the respective pharmacy's mark-up

\* A dispensing fee was charged to patients from April 1, 2011

\*\* Patient benefits from the reduced cost of the drug which is free of duties and taxes

### 2.0.1 BARBADOS NATIONAL DRUG FORMULARY

The Barbados National Drug Formulary serves as the blueprint for prescribing to the beneficiaries listed in **Table 1**. Beneficiaries receive formulary drugs free of cost at point of service in both the public and private sector pharmacies. With a two-year cycle in place for drugs contracted under the Barbados Drug Service, the drugs listed in the 36<sup>th</sup> edition of the BNDF spanned both the 2018-19 and 2019-20 fiscal years.

#### The Following Drugs Were Deleted from the BNDF, 36th EDITION

Amiloride/HCTZ 5mg/50mg	Nifedipine/Atenolol
Amlodipine/Atorvastatin	Pravastatin
Amlodipine/Telmisartan	Pilocarpine 4% Eye Drops
Amlodipine/Valsartan/ HCTZ	Quinapril
Atenolol 50 and 100mg Tab	Quinapril/HCTZ
Betaxolol 0.1% Eye Drop	Ramipril/HCTZ
Bisoprolol/HCTZ	Rilmenidine
Candesartan	Simvastatin
Candesartan/HCTZ	Sodium cromoglycate Eye Drops
Enalapril/HCTZ	Sodium cromoglycate Nasal Spray



Ezetimibe/Simvastatin  
Fosinopril  
Indapamide 2.5mg  
Lacidipine  
Lisinopril/HCTZ

Telmisartan  
Telmisatan/HCTZ  
Timolol 0.5% Eye Drop  
Valsartan/HCTZ

### **The Following Drugs Were Added to the BNDF, 36th Edition**

Alendronate  
Artesunate  
Bicalutamide  
Bosentan  
Docetaxel  
Echinocandin  
Eplerenone  
Ezetimibe

Fenofibrate  
Fluticasone/ Vilanterol  
Levetiracetam  
Mequitazine  
Nicardipine  
Tiotropium/ Olodaterol  
Umeclidinium/ Vilanterol  
Voricanazole

In accordance with Section 5(3) and 5(A) of the Drug Service Act Cap. 40A, the Minister of Health, after consulting with the Drug Formulary Committee, approved the publication of the 36<sup>th</sup> edition of the BNDF through the Drug Service (Barbados National Drug Formulary) (Approval) Order, 2018. Upon receipt of the Approval Order, 2018, the 36<sup>th</sup> edition of the BNDF, a two-year document, was approved for printing. This was to coincide with the change of the Maximum Price Contract cycle from one to two years.

One thousand two hundred and sixty-two (1,262) complimentary copies of the 36<sup>th</sup> edition of the BNDF were distributed during the 2018-19 fiscal year to pharmacy, medical and dental practitioners, and students. Complimentary copies were also distributed to the Barbados Community College's nursing students for their pharmacology course.

### **2.0.2 THE SUPPLY AND INVENTORY SERVICE**

The BDS is charged with the responsibility of the procurement, availability, efficacy and quality of the formulary drugs, as well as ensuring a continuous supply to all Government healthcare institutions and the Private Participating Pharmacies. In accordance with the Financial Administration and Audit (Drug Service) Rules, 1980, the BDS invites tenders for the supply of formulary drugs, and the bids submitted are reviewed by the 8-member Drug Tenders Committee. Contracts are awarded for the supply of drugs and related items based on the outcome of the adjudication process. There is a primary and secondary tendering process which is chaired by the Director, or in her absence, the Assistant Director with responsibilities for Supplies & Inventory.

The Primary Tender consists of items in categories A, B and C of the Barbados National Formulary, whereas the supplementary tender is undertaken to invite

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quotations for the supply of Drugs and Related Items in any of the following situations: -

- (i) No offers to supply were received in the Primary Tender.
- (ii) Offers to supply were received but none of those offers received were recommended for the award of a contract by the Drug Tenders Committee at the Primary Tender.
- (iii) Approved generic profiles to the Barbados National Drug Formulary were added after the issue of the Primary Tender Document.
- (iv) Generic profiles were modified after the issue of the Primary Tender Document.

The year under review, April 1, 2018 to March 31, 2019, consists of the first half of the two-year Maximum Price Contract (MPC).

As seen in **Table 3** the 2,796 brand codes represent 716 chemical moieties distributed in Categories A, B, BQ and C drugs. **Table 4** gives a comparative analysis over the last seven years.

**Table 2:** Number of Brand Codes awarded by Category in MPC  
Year 2018-20\*

Contract Number	Formulary Category Code**	No. of Brands Awarded
38	A	1,181
38	B	461
38	BH	3
38	BL	62
38	BP	43
38	BQ	295
38	C	862
Total Drugs Contracted		2,907

\*NB: The Maximum Price Contract now spans two financial years

**\*\* Legend:**

- A** - Full Formulary drugs for use in both the public and private sectors
- B** - Formulary medicines for use in the public sector only
- BH** - Formulary medicines for use in the Geriatric Hospitals only
- BQ** - Formulary medicines for use in the Queen Elizabeth Hospital only
- BP** - Formulary medicines for use in the psychiatric institutions or clinics
- BL** - Formulary medicines for use only at the Ladymeade Reference unit.
- C** - Non-reimbursable Formulary drugs which patients will purchase in the private sector only.

It must be noted the 2,907 brand codes listed in **Table 2** represent 695 chemical moieties distributed in Categories A, B, BH, BL BP, BQ and C drugs. **Table 3** however gives a comparative analysis of the changes made between these categories.

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**Table 3: Number of Drug Changes During the Fiscal Year 2018-2019**

Contract Number	Criteria	Number of Changes
38	Add to Contract as Cat A	197
38	Add to Contract as Cat B	26
38	Add to Contract as Cat C	12
38	Amend Protocol Quantity	7
38	Change Local Agent	244
38	Contract Extended	120
38	Delete from contract	431
38	Guarantee Changed	14
38	Name Change	9
38	Package Size Change	37
38	Price Change	11
38	Product Quality	2
38	Status Change from A to B	7
38	Status Change from A to C	2
38	Status Change from C to A	5

The Formulary for this period consisted mainly of generic products, the long standing branded anti-diabetes, anti-hypertension, anti-epilepsy, and anti-asthma medications were replaced with generics. Most of these generic drugs were not available at the start of the contract and therefore the branded products or generics from the previous contracts were used.

The ministerial mandate during this period of scarcity, of the contracted formulary products, was to extend the MPC 37 contracted products into the MPC 38 contract period. This extended grace period, resulted in a higher number of additions, and subsequent deletions when the grace period ended. In some cases, the grace period extended for 10 months, this is to January 2019. These contract extensions related primarily to the MPC #37 branded items being used to replace the MPC#38 generics which were unavailable.

Deletions also resulted from the discontinuation of distribution rights as ensued with Bryden Stokes for those drugs manufactured by GlaxoSmithKline and AstraZeneca; in addition to the closure of Biokal Limited. In this period Bryden Stokes also split the generic arm of their business into a new entity, namely Ansa Trading Ltd.

Guarantees were changed when one supplier became the only available supplier for the product. This was usually because the competitor was unable to supply and hence the cancellation of the contract.

Changes from Category A to C products were primarily due to the branded items being extended when the generic items awarded the contract were unable to fulfil their obligation.

Other changes seen during the 2018-19 financial year included:

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1. Two products being removed from the formulary due to their failure of the routine analytical testing;
2. All price changes seen during the 2018-19 financial year were increases; and
3. Nine of the 16 items deleted were due to the discontinuation of the products by the manufacturer.

**Table 4** gives the number and value of duty-free certificates processed with respect to contracted and non-contracted drugs by local suppliers for 2018-19 fiscal year. Bryden Stokes Ltd. followed by Collins had the highest value of contracted duty-free certificates whereas Pharmacy Sales Caribbean followed by Bryden Stokes Ltd had the highest value of non-contracted duty-free certificates.

**Table 4: Number and Value of Duty-Free Certificates (DFC) Processed in 2018-19**

Local Supplier	Number of Items Processed	Value of Contracted DFC	Value of Non-contracted DFC
BRYDEN STOKES LTD	2042	\$36,594,306.33	\$2,581,818.95
COLLINS LTD	2572	\$20,769,117.63	\$2,352,994.72
MASSY DISTRIBUTION (BDOS) LTD	480	\$8,499,397.07	\$18,882.53
ARMSTRONG HEALTHCARE INC	719	\$5,543,446.84	\$2,527,310.69
PHARMACY SALES CARIBBEAN	425	\$2,092,772.95	\$6,732,206.85
RX PRO INC	84	\$687,492.80	
A. A. LAQUIS LTD	13	\$245,589.91	\$56,067.00
ALL HEALTH INC	20	\$84,064.82	\$6,238.73
ISLANDS MEDICAL SUPPLIES INC	2	\$37,292.91	
BIOKAL LIMITED	9	\$16,176.25	\$6,245.46
ALTIMAR WHOLESALERS INC	2	\$9,996.44	
INTERCONTINENTAL PHARMA	17		\$373,859.85
	6385	\$11,316,955.73	\$6,751,089.38

**Table 5** gives the comparative BDS expenditure by local distributor, with Collins Limited leading the suppliers, followed by Bryden Stokes Limited and Armstrong Health Care Inc.

**Table 5: Comparison of the BDS Drugs Purchases from Local Suppliers during the 2018-19 Fiscal Year**

Vendor Name	2018-2019	Percentage of the Total Expenditure
COLLINS LTD	\$4,284,663.57	47.62%
BRYDEN STOKES LTD.	\$2,234,568.05	24.84%
ARMSTRONG HEALTH CARE INC	\$879,656.97	9.78%

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Vendor Name	2018-2019	Percentage of the Total Expenditure
RX PRO INC	\$462,814.03	5.14%
PHARMACY SALES CARIBBEAN	\$401,371.93	4.46%
MASSY DISTRIBUTION (BARBADOS) LTD.	\$388,101.14	4.31%
INTERCONTINENTAL PHARMA INC	\$174,040.80	1.93%
A.A. LAQUIS (BARBADOS] LTD.	\$84,812.32	0.94%
ALL HEALTH INC	\$37,905.07	0.42%
WEST INDIES RUM DISTILLERY	\$23,710.88	0.26%
ALTIMAR WHOLESALERS INC	\$11,230.79	0.12%
LAIN TRADING CORPORATION LLC	\$10,575.00	0.12%
ISLAND MEDICAL SUPPLIES INC	\$3,684.28	0.04%
PHOENIX DISTRIBUTION LTD	\$150.15	0.00%
BARBADOS FAMILY PLANNING ASSOCIATION		
BIOKAL LTD		
Total	\$8,997,284.98	100%

### 2.0.3 THE SPECIAL BENEFIT SERVICE

#### 2.0.3.1 Usage of the Special Benefit Service

During the reporting period, approximately 650,000 prescriptions were dispensed by the Private Participating Pharmacies (PPP) under the Special Benefit Service (SBS) programme at a cost of \$6.5 million (See **Table 6**). The cost paid to the private pharmacies relates only to the cost of the contracted drugs as purchased from the local suppliers. The patients (beneficiaries) were responsible for paying the dispensing fee directly to the PPP based on the formula at **Table 7** which is calculated on the contracted cost price.

**Table 6:** Prescription Count and Expenditure for Prescriptions Dispensed to BDS Beneficiaries in the Private Participating Pharmacies

2018-19 Fiscal Year	DISPENSED *		
	No. of Pharmacies	Prescription Count	Cost
April	97	56,576	643,222.28
May	96	64,082	751,069.21
June	97	63,293	735,680.82
July	97	52,752	539,996.18
August	97	52,412	541,647.34

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2018-19 Fiscal Year	DISPENSED *		
	No. of Pharmacies	Prescription Count	Cost
September	97	49,085	515,826.99
October	98	58,146	603,381.37
November	98	49,595	434,004.55
December	98	51,161	436,327.20
January	98	52,728	472,949.32
February	99	47,182	373,883.15
March	98	52,351	416,346.49
		<b>649,363</b>	<b>6,464,334.90</b>

\* Cost to the BDS for the drugs dispensed in the month indicated. It must be noted that reimbursement claims are paid to PPP the month following the month in which the drugs are dispensed; with some claims being submitted several months following the dispensing date.

**Table 7: Prescription Pricing Formula**

Cost of Drug to Pharmacy	Dispensing Fee to be Paid by the Beneficiary
\$0 - \$2.00	\$5.00 minus Drug Cost
\$2.01 - \$10.00	Drug Cost plus \$5.00
\$10.01 - \$20.00	Drug Cost plus \$7.00
\$20.01 - \$40.00	Drug Cost plus \$12.00
Over \$40.00	Drug Cost plus 30%

**Table 8** shows that expenditure was reduced significantly after each BDS restructuring exercise; first in 2011-12 with the introduction of the payment of the Dispensing Fee by beneficiaries in the private sector and then in 2018-19 with the restructuring of the products on the Barbados National Drug Formulary. The percentage reduction in the BDS expenditure seen in these two years were 69% and 35% respectively.

**Table 8** shows that expenditure in the private sector was reduced by 35% during the year under review. This resulted from the comprehensive review and pharmaceuticals selection changes to the Barbados National Drug Formulary. Over the listed ten-year period, this reduction in expenditure was surpassed only in 2011-12 with a 69% reduction when the payment of the dispensing fee by beneficiaries in the private sector was introduced.

**Table 8: Ten Year Comparison of the SBS Percentage Changes in Prescription Volume and Expenditure**

Year	Prescription (Rx) Volume	Expenditure (\$)	% Change in Expenditure	% Change in Rx Volume	\$/Rx
2009-10	N/A	40,561,950	11%	N/A	N/A
2010-11	N/A	34,574,833	-15%	N/A	N/A
2011-12	879,104	10,787,176	-69%	N/A	\$12.27
2012-13	864,335	10,639,956	-1%	-1.71%	\$12.31



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Year	Prescription (Rx) Volume	Expenditure (\$)	% Change in Expenditure	% Change in Rx Volume	\$/Rx
2013-14	828,328	10,643,775	0%	-4.35%	\$12.85
2014-15	841,221	10,619,933	0%	1.54%	\$12.71
2015-16	827,374	9,394,511	-13%	-1.67%	\$11.35
2016-17	808,991	9,103,411	-3%	-2.22%	\$11.25
2017-18	827,067	9,881,644	8%	2.19%	\$11.95
2018-19	649,363	6,464,335	-35%	-21.49%	\$9.95

### 2.0.3.2 Private Participating Pharmacies (PPP)

Private Participating Pharmacies (PPP) are private pharmacies who are contracted with the Director, Barbados Drug Service to dispense formulary Drugs to beneficiaries of the Special Benefit Service programme. At the end of the 2018-19 fiscal year, **Table 9 shows that** the number of PPP stood at ninety-nine (99); with two PPP leaving the programme and five joining.

**Table 9: Contractual Changes in the Private Participating Pharmacies (PPP) for the 2018-19 Fiscal Year**

New PPP Contracted with the BDS	PPP who Cancelled their BDS Contracts
TDL Pharmacy	Health Smart Pharmacy
Felimar Pharmacy	Rx Solution
Virtuous Pharmacy	
Enterprise Pharmacy	
Maranatha Pharmacy	

### 2.0.3.3 Beneficiaries

Beneficiaries of the Special Benefit Service programme include the following:

- (1) Persons 65 years of age and over
- (2) Children under 16 years of age
- (3) Persons, of any age, who receive prescribed formulary drugs for the treatment of any of the following conditions: hypertension, diabetes, cancer, asthma, epilepsy, and glaucoma.

In the benefit categories listed in **Tables 10 and 11**, hypertension accounts for the largest prescription volume and expenditure: 40.8% and 41.0% respectively, followed by diabetes at 20.7% and 28.5% respectively, when compared against the total drug count. Glaucoma continues to have the third highest expenditure with \$511,135.37 being reimbursed in the period under review at an average prescription cost of \$13.05 versus \$10.01 and \$13.74 for hypertension and diabetes respectively. Though there is a low demand for drugs used in the treatment of epilepsy, it accounts for the second highest average prescription cost of \$20.89; it being surpassed only by cancer with an average prescription cost of \$30.75.

A similar trend is also seen when each benefit category is compared against the total drug count and expenditure among the benefit categories only.

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Hypertension and diabetes maintain positions 1 and 2 at 55.8% and 28.3% respectively of the prescription count and 46.1% and 32.1% with respect to the expenditure.

**Table 10: Prescription Activity by Benefit Category in the Private Sector for the 2018-19 Fiscal Year**

Benefit Categories	Prescription (Rx) Volume	% of Total Rx	Expenditure (\$)	% of Total Expenditure of Benefit Rx	Avg. Cost/ Prescription (\$)
Hypertension	264,711	40.8%	2,650,553.97	41.0%	\$10.01
Diabetes	134,254	20.7%	1,844,682.02	28.5%	\$13.74
Glaucoma	39,159	6.0%	511,135.37	7.9%	\$13.05
Asthma	22,188	3.4%	399,851.50	6.2%	\$18.02
Epilepsy	8,092	1.2%	169,013.06	2.6%	\$20.89
Cancer	5,607	0.9%	172,409.30	2.7%	\$30.75
Total Benefit Prescriptions	474,011	73.0%	5,747,645.22	88.9%	10.01
Other Formulary Drugs	175,352	27.0%	716,690	11.1%	13.74
TOTAL	649,363		\$6,464,335		13.05

**Table 11: Benefit Categories as a Percentage of Total Prescription Count and Expenditure in the Private Participating Pharmacies**

Benefit Category	Percentage of Total Benefit Prescription Count	Percentage of Total Benefit Expenditure
Hypertension	55.8%	46.1%
Diabetes	28.3%	32.1%
Glaucoma	8.3%	8.9%
Asthma	4.7%	7.0%
Epilepsy	1.7%	2.9%
Cancer	1.2%	3.0%
Total	474,011	\$5,747,645.22

In summary, the benefit categories, as listed above, represent 73.3% of the prescription volume submitted and 88.9% of the expenditure of SBS. The difference, 26.7% of prescription volume and 11.1% of expenditure, represents beneficiaries, 65 years and over and under 16 years, receiving formulary drugs for conditions other than the benefit categories.

Table 12 shows that the majority of the top 25 drugs dispensed in the private sector during the year under review fell within the top two treatment categories in Tables 10 and 11, namely hypertension and diabetes. The top 25 drugs represent 81% of the total expenditure reimbursed to the Private Participating Pharmacies for the 2018-19 fiscal year with the hypertension and diabetes drugs representing 75.3%.



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**Table 12: Top 25 Drugs Dispensed in the Private Sector by Expenditure During the 2018-19 Fiscal Year**

NO	DRUG NAME	MAIN INDICATION	COST	% of overall Expenditure
1	DIAMICROM MR 60MG TAB (SER/STO) GLICLAZIDE	Diabetes	\$1,079,932.30	16.7%
2	NATRILIX SR 1.5MG TAB (SER/STO) INDAPAMIDE	Hypertension	\$553,375.68	8.6%
3	DIOVAN 160MG TAB (NVS/COL) VALSARTAN	Hypertension	\$382,132.64	5.9%
4	DIOVAN 320MG TAB (NVS/COL) VALSARTAN	Hypertension	\$365,040.10	5.6%
5	DIOVAN 80MG TAB (NVS/COL) VALSARTAN	Hypertension	\$358,830.06	5.6%
6	ACCU-CHEK PERFORMA GLUC (PRI/STO) DIAGNOSTIC	Diabetes	\$355,821.18	5.5%
7	DIAMICROM MR 60MG TAB (SER/COL) GLICLAZIDE	Diabetes	\$232,345.48	3.6%
8	CONCOR 2.5MG TAB (MEK/COL) BISOPROLOL	Hypertension	\$186,860.44	2.9%
9	NATRILIX SR 1.5MG TAB (SER/COL) INDAPAMIDE	Hypertension	\$177,497.40	2.7%
10	EXFORGE 10MG 320MG TAB (NVS/COL) AMLODIPINE V	Hypertension	\$176,991.97	2.7%
11	LOUTEN EMULSION 0.005% EYE DR (LPO/COL) LATAN	Glaucoma	\$160,947.92	2.5%
12	ANDROCUR 100MG TAB (BSP/COL) CYPROTERONE	Cancer	\$147,684.32	2.3%
13	BAYER NEXT EZ GLUC (BYC/AHI) DIAGNOSTIC BLOO	Diabetes	\$134,207.28	2.1%
14	HUMULIN 70/30 INJ (LIL/STO) BIPHASIC ISOPHAN	Diabetes	\$103,935.96	1.6%
15	GLYFORMIN 500MG TAB (REM/SBI) METFORMIN	Hypertension	\$101,222.45	1.6%
16	FREESTYLE OPTIUM GLUC (ABD/SBI) DIAGNOSTIC B	Diabetes	\$93,152.30	1.4%
17	EXFORGE 5MG 160MG TAB (NVS/COL) AMLODIPINE VA	Hypertension	\$88,877.00	1.4%
18	METFORMIN XR 500MG TAB (HEA/RXP)	Diabetes	\$83,744.48	1.3%
19	MICARDIS 80MG TAB (BOE/STO) TELMISARTAN	Hypertension	\$82,062.09	1.3%
20	EXFORGE 10MG 160MG TAB (NVS/COL) AMLODIPINE V	Hypertension	\$73,425.26	1.1%
21	TEGRETOL CR 400MG TAB (NVS/COL) CARBAMAZEPINE	Epilepsy	\$67,841.32	1.0%
22	APO-BISOPROLOL 5MG TAB (APO/COL) BISOPROLOL	Hypertension	\$63,036.09	1.0%
23	NOVOLIN 70/30 INJ (NOV/COL) BIPHASIC ISOPHAN	Diabetes	\$61,306.96	0.9%
24	LIFESCAN ONE TOUCH ULTRA GLUC	Diabetes	\$58,363.55	0.9%

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	(JOH/AAL) DIAG			
25	EXFORGE HCT 10/320/25 TAB (NVS/COL) AMLODIPIN	Hypertension	\$56,166.24	0.9%

### 2.0.4 THE BDS PHARMACY SERVICE

#### 2.0.4.1 BDS Public Sector Pharmacy Service

The BDS public sector pharmacy service comprises of 14 pharmacies located in 9 polyclinics, 3 out-patient clinics and 2 district hospitals. These pharmacies are strategically located across the island to ensure easy access by all patients. It should be noted that though the BDS does not have administrative responsibility for the pharmacy at the Psychiatric Hospital that its pharmaceutical budget includes that for the Psychiatric Hospital.

**Table 13:** Analysis of Expenditure in BDS Pharmacies by Public (A), Private (B) and the Queen Elizabeth Hospital (Q) Prescriptions for the Fiscal Year 2018-19

PRESCRIPTION COUNT & COST FOR BDS PHARMACIES BY TOTAL COST								
2018-19	A RX	A COST	B Rx	B COST	Q Rx	Q COST	TOTAL Rx	TOTAL COST
SWS	146,652	937,134.12	24,304	206,625.68	4,194	32,735.35	175,150	1,176,495.15
RAP	122,814	939,509.12	20,572	193,690.12	2,642	26,260.70	146,028	1,159,459.94
MBY	112,257	794,112.94	10,395	91,285.01	2,604	26,860.82	125,256	912,258.77
BLR	90,775	677,779.98	8,298	74,119.44	1,155	10,591.40	100,228	762,490.82
SIX	90,814	655,421.14	21,742	206,101.82	2,912	27,439.66	115,468	888,962.62
GLE	73,831	596,084.45	8,079	79,939.56	916	9,092.73	82,826	685,116.74
WAR	88,374	596,026.32	7,964	73,191.72	1,272	10,482.27	97,610	679,700.31
EDC	78,439	583,858.76	3,019	29,914.58	779	6,261.71	82,237	620,035.05
JON	50,864	347,700.95	2,942	22,154.82	453	3,012.90	54,259	372,868.67
JOS	7,072	53,109.39	686	6,184.45	88	1,008.77	7,846	60,302.61
AND	10,098	78,127.40	591	5,893.30	165	1,338.03	10,854	85,358.73
GER	32,999	228,097.82	422	3,160.70	181	1,882.00	33,602	233,140.52
THO	12,865	87,510.14	980	10,590.54	212	3,228.04	14,057	101,328.72
SPH	12,586	87,630.79	93	1,332.87	13	35.76	12,692	88,999.42
<b>SUB-TOTAL</b>	<b>930,440</b>	<b>6,662,103.32</b>	<b>110,087</b>	<b>1,004,184.61</b>	<b>17,586</b>	<b>160,230.14</b>	<b>1,058,113</b>	<b>7,826,518.07</b>
PSY	58,275	1,003,077.97	57	958.09	2	2.28	58,334	1,004,038.34
<b>TOTAL</b>	<b>988,715</b>	<b>7,665,181.30</b>	<b>110,144</b>	<b>1,005,142.70</b>	<b>17,588</b>	<b>160,232.42</b>	<b>1,116,447</b>	<b>8,830,556.42</b>

#### Legend of Codes Used in Table 13

<b>Rx</b>	Prescription
<b>A Rx</b>	Count of Prescriptions originating in public sector clinics
<b>A COST</b>	Cost of Prescriptions originating in public sector clinics
<b>B Rx</b>	Count of Prescriptions originating in private sector
<b>B COST</b>	Cost of Prescriptions originating in private sector
<b>Q Rx</b>	Count of Prescriptions originating at Queen Elizabeth Hospital
<b>Q COST</b>	Cost of Prescriptions originating at Queen Elizabeth Hospital

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**Table 13** gives a breakdown of the 2018-19 fiscal year's pharmaceutical expenditure for each of the BDS' pharmacies, and that at the Psychiatric Hospital.

### Pharmacy Codes used in Table 13 and Figure 1

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

Of the twelve BDS pharmacies in **Table 12** which provide pharmaceutical services to the public, Winston Scott Polyclinic Pharmacy has the highest prescription volume and drug expenditure followed by Randal Phillips and Maurice Byer polyclinic pharmacies. These three pharmacies all offered extended-hour service and their drug expenditure for this period all exceeded \$900,000. The extended-hour service at these pharmacies during this review period follows:

- **Maurice Byer and Randal Phillips Polyclinics**  
8:15 a.m. to 8:30 p.m. Mondays to Fridays
- **Winston Scott Polyclinic**  
8:15 a.m. to 10:00 p.m. Mondays to Fridays and  
8:15 a.m. to 4:30 p.m. on Saturdays.

The St. Philip Polyclinic Pharmacy ranked fourth with a drug expenditure of \$888,963 ahead of the Branford Taitt Polyclinic Pharmacy which until March 2018 also offered extended pharmacy service from 8:15 a.m. until 6:30 p.m. Mondays to Fridays. The cost of drugs dispensed at the Psychiatric Hospital Pharmacy was over \$1 million annually.

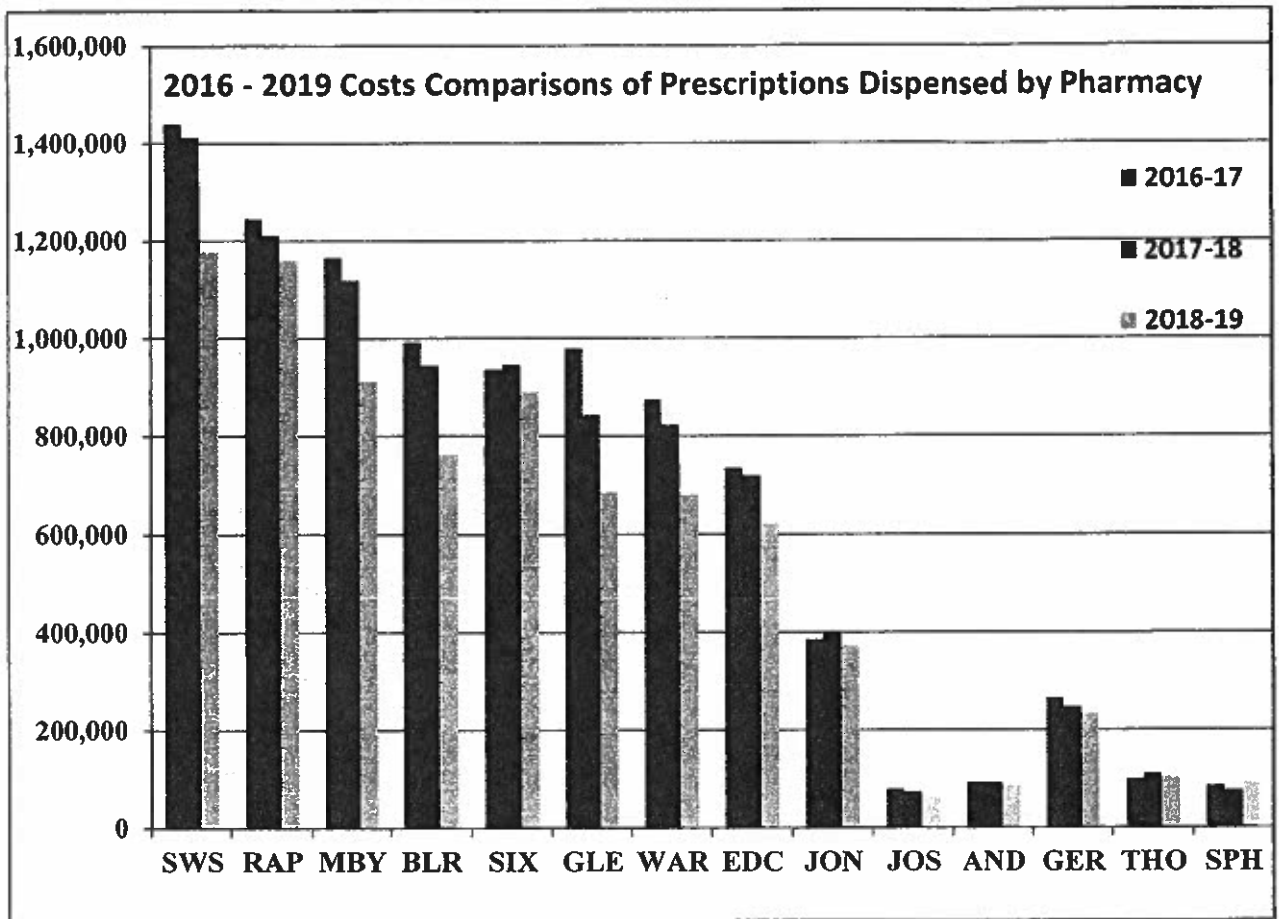


Figure 1: Graphical Representation of the Cost of Prescriptions dispensed in the BDS Pharmacies for fiscal years: 2016-17, 2017-18 and 2018-19

A breakdown is also given of the prescriptions dispensed by origin in the BDS district pharmacies; that is, from the polyclinics, the private sector, and the Queen Elizabeth Hospital. Table 14 shows that the majority (88.6%) of the prescriptions dispensed in the BDS clinics originate in that sector, with 9.9% originating in the private sector and 1.6% in the Queen Elizabeth Hospital. The expenditure accounts for 86.8%, 11.4% and 1.8% respectively.

Table 14: Prescription Volume and Expenditure by Origin

Prescription Origin	Prescription Volume		Expenditure	
	Total	% of Total	Total	% of Total
Polyclinic/O.P.C	988,715	88.6%	7,665,181.30	86.8%
Private	110,144	9.9%	1,005,142.70	11.4%
Q.E.H	17,588	1.6%	160,232.42	1.8%
<b>Grand Total</b>	<b>1,116,447</b>		<b>8,830,556.42</b>	

As shown in Tables 15 and 16, hypertension and diabetes follow a similar trend, as in the private sector, and in previous years, where they are positioned at one and two respectively in terms of expenditure and prescription volume among the therapeutic benefit categories.

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Tables 15 and 16 also show that the benefit categories – hypertension, diabetes, asthma, cancer, epilepsy, and glaucoma account for 85.5% of the prescription volume and 68.3% of the expenditure during the 2018-19 fiscal year in the public sector. Of the benefit categories, hypertension takes the lead in prescription count only, unlike what was seen in the private sector where hypertension led in both prescription volume and expenditure. Similarly, to that seen in the private sector, diabetes and asthma follows in terms of prescription count. Hypertension accounts for 72% of the overall volume of benefit prescriptions, and 35.2% of the expenditure. Diabetes follows at 19.8% drug volume and 41.6% in expenditure.

**Table 15: Prescription Activity by Benefit Category in the Public Sector for the 2018-19 Fiscal Year**

BENEFIT CATEGORY	RX COUNT	COST	COST/RX
Hypertension	687,338	\$2,122,545.94	\$3.09
Diabetes	188,455	\$2,510,421.86	\$13.32
Asthma	38,840	\$507,595.12	\$13.07
Epilepsy	22,373	\$439,518.75	\$19.65
Cancer	3,626	\$272,517.34	\$75.16
Glaucoma	13,435	\$176,991.52	\$13.17
<b>TOTAL BENEFIT</b>	<b>954,067</b>	<b>\$6,029,590.53</b>	<b>\$6.32</b>
Others	162,380	2,800,965.89	\$17.25
<b>TOTAL</b>	<b>1,116,447</b>	<b>\$8,830,556.42</b>	<b>\$7.91</b>

**Table 16: Benefit Categories as a Percentage of Total Benefit Drugs & Overall Drug Expenditure in 2018-19 Fiscal Year in the Public Sector**

Benefit Category	Percentage of Total Volume and Expenditure for Benefit Drugs Only		Percentage of Total Drug Count and Expenditure	
	Rx Count	Cost	Rx Count	Cost
Hypertension	72.0%	35.2%	61.6%	24.0%
Diabetes	19.8%	41.6%	16.9%	28.4%
Asthma	4.1%	8.4%	3.5%	5.7%
Epilepsy	2.3%	7.3%	2.0%	5.0%
Cancer	0.4%	4.5%	0.3%	3.1%
Glaucoma	1.4%	2.9%	1.2%	2.0%
<b>TOTAL</b>			<b>85.5%</b>	<b>68.3%</b>

Table 17 gives a ten-year analysis of the public sector's prescription volume and expenditure. After the initial increase in prescription volume in the first three years of the introduction of the payment of dispensing fee by beneficiaries in the private sector, the exodus of private prescriptions into the public settled down, and by the 2014-16 fiscal years the influx of prescriptions into the public pharmacies subsided. There was a slight increase again in 2016-17 by approximately 9% which then followed by a 4.2% and 4.6% decline in 2017-18 and 2018-19 respectively.

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**Table 17: BDS Pharmacies' Percentage changes in Prescription Volume and Expenditure for Fiscal Years 2009-18**

Year	Prescription Count	% change	Cost of Drugs Dispensed (\$)	% change	Avg. Prescription Cost (\$)
2009-10	778,267		12,150,516		15.61
2010-11	814,400	4.64%	12,451,937	2.48%	15.29
2011-12	1,083,082	32.99%	11,765,288	-5.51%	10.86
2012-13	1,206,351	11.38%	13,481,501	14.59%	11.18
2013-14	1,244,739	3.18%	11,998,305	-11.00%	9.64
2014-15	1,198,187	-3.74%	12,444,809	3.72%	10.39
2015-16	1,120,971	-6.44%	10,357,294	-16.77%	9.24
2016-17	1,221,568	8.97%	10,408,527	0.49%	8.52
2017-18	1,170,306	-4.20%	10,080,029	-3.16%	8.61
2018-19	1,116,447	-4.60%	8,830,556	-12.40%	7.91

During the 2016-19 fiscal years, there were similar trends in the prescription costs. There was a modest increase in expenditure in 2016-17 by 0.49% which followed thereafter with a 3.16% decline in 2017-18 and a further decline by 12.40% in 2018-19.

**Table 18: Top 25 Drugs Dispensed (by Expenditure) in the Public Sector in 2018-19**

	DRUG	DRUG INDICATION	COST (\$)
1	Diamicon MR 60mg Tab Gliclazide	Diabetes	878,172.17
2	Natrilix SR 1.5mg Tab Indapamide	Hypertension	826,891.31
3	Accu-Chek Performa Glucose Blood Diagnostic	Diabetes	580,238.01
4	Diovan 320mg Tab Valsartan	Hypertension	443,586.37
5	Diovan 160mg Tab Valsartan	Hypertension	316,066.02
6	Humulin 70/30 Inj Biphasic Isophane	Diabetes	195,897.24
7	Diovan 80mg Tab Valsartan	Hypertension	191,294.19
8	Exforge 320mg/10mg Tab Amlodipine/Valsartan	Hypertension	138,304.32
9	Cyproterone 100mg Tab	Cancer	209,513.71
10	Glyformin 500mg Tab Metformin	Diabetes	111,631.82
11	Concor 2.5mg Tab Bisoprolol	Hypertension	101,956.97
12	Novolin 70/30 Inj Biphasic Isophane	Diabetes	98,670.00
13	Sky Era Glucose Diagnostic Blood Glucose	Diabetes	96,254.00
14	Bayer Next EZ Glucose Blood Diagnostic	Diabetes	89,028.99
15	Novolin-N 100U/ml Inj Isophane	Diabetes	82,918.68



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	DRUG	DRUG INDICATION	COST (\$)
16	Lifescan One Touch Ultra Glucose Blood Diagnostic	Diabetes	75,206.18
17	Symbicort Turbohaler 160/4.5 (Formoterol fumarate/Budesonide) Inhaler	Asthma	68,714.64
18	Micardis 80mg Tab Telmisartan	Hypertension	68,507.04
19	Gliclazide MR 60mg Tab	Diabetes	67,585.85
20	Metformin XR 500mg Tab	Diabetes	66,068.64
21	Tegretol CR 400mg Tab Carbamazepine	Epilepsy	65,974.23
22	Freestyle Optium Glucose Blood Diagnostic	Diabetes	65,082.30
23	Ventolin 100mcg Inhaler Salbutamol	Asthma	59,303.70
24	Depixol Depot 20mg/ml Inj. Flupenthixol	Antipsychotic	55,727.36
25	Lantus 100u/ml Inj Insulin glargine	Diabetes	52,057.36
<b>Total Expenditure on the top 25 Drugs</b>			<b>5,004,651.10</b>
<b>Total Expenditure on all Drugs dispensed in 2018-19</b>			<b>8,830,556.00</b>

As reflected in **Table 18**, the top 25 drugs dispensed in the public sector during the 2018-19 fiscal year represents 57% of the total expenditure on all drugs dispensed during that period. Over 81% of the top 25 drugs were for the treatment of diabetes and hypertension with one drug each being used in the treatment of cancer, epilepsy, and psychoses: and two drugs for asthma therapy.

### 2.0.5 Public versus Private Sector Usage

As shown in **Table 19**, the comparison of the private and public sectors over the last two fiscal years shows a decrease in prescription volume and expenditure in the public sector by 5% and 12% respectively. The private sector showed a 21% decline in prescription volume and 35% decline in expenditure. The average prescription cost also decreased in both sectors; 8% in the public and 17% in the private.

**Table 19: Comparison of Prescription Volume and Expenditure in the Public and Private Sectors Over the 2009-19 Fiscal Years**

Year	Public Sector			Private Sector			% Difference in Rx Cost (private vs. public)
	Prescription (Rx) Volume	Expenditure (\$)	Cost/Rx	Rx Volume	Expenditure (\$)	Cost/Rx	
2009-10	778,267	12,150,516	\$15.61	N/A	40,561,950	N/A	N/A
2010-11	814,400	12,451,937	\$15.29	N/A	34,574,833	N/A	N/A
2011-12	1,083,082	11,765,288	\$10.86	887,249	10,787,176	\$12.20	12%
2012-13	1,206,351	13,481,501	\$11.18	864,335	10,639,956	\$12.31	10%
2013-14	1,244,739	11,998,305	\$9.64	828,328	10,643,775	\$12.85	33%
2014-15	1,198,187	12,444,809	\$13.64	841,063	10,619,933	\$12.71	-7%
2015-16	1,120,971	10,357,294	\$9.24	827,374	9,394,511	\$11.35	23%

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Year	Public Sector			Private Sector			% Difference in Rx Cost (private vs. public)
	Prescription (Rx) Volume	Expenditure (\$)	Cost/Rx	Rx Volume	Expenditure (\$)	Cost/Rx	
2016-17	1,221,568	10,408,527	\$8.52	808,346	9,385,713	\$11.61	36%
2017-18	1,170,306	10,080,029	\$8.61	827,067	9,881,643	\$11.95	39%
2018-19	1,116,447	8,830,556	\$7.91	649,363	6,464,335	9.95	26%
% Changes between 2009-10 and 2018-19	43%	-27%	-49%	-27%*	-84%	-18%*	26%
% Changes between 2017-18 and 2018-19	-5%	-12%	-8%	-21%	-35%	-17%	-33%

\* Comparison given for the 8-year period: 2011 to 2019

Table 20 gives the comparison of the benefit categories by therapeutic classification based on the prescription volume and expenditure for the year under review. The private sector surpassed the public sector in three of the six therapeutic categories, namely glaucoma by 477%, hypertension by 121%, and asthma by 3%. The astronomical differential in the private sector's expenditure on glaucoma can be attributed to the fact that the majority of patients who accessed ophthalmology services in the private sector would have been dispensed the higher cost branded product versus the cheaper product which is available in the public sector. Reimbursement to the private sector for the six benefit categories during the 2018-19 fiscal year was 47% higher than that in the public sector.

**Table 20: Total Prescriptions filled and Their Expenditure for the Benefit Categories in the Public and Private Sectors for the Fiscal Years 2018-19**

Benefit Category	PUBLIC		PRIVATE		TOTAL		% of Total Expenditure spent on each Benefit Category
	Rx Count	Expenditure (\$)	Rx Count	Expenditure (\$)	Rx Count	Expenditure (\$)	
Hypertension	687,338	\$2,122,545.94	351,142	4,693,969.40	1,038,480	\$6,816,515.34	45.80%
Diabetes	188,455	\$2,510,421.86	155,408	2,262,273.66	343,863	\$4,772,695.52	32.07%
Asthma	38,840	\$507,595.12	25,586	525,315.81	64,426	\$1,032,910.93	6.94%
Epilepsy	22,373	\$439,518.75	11,229	259,721.91	33,602	\$699,240.66	4.70%
Cancer	3,626	\$272,517.34	4,760	90,953.90	8,386	\$363,471.24	2.44%
Glaucoma	13,435	\$176,991.52	58,021	1,021,664.37	71,456	\$1,198,655.89	8.05%
<b>TOTAL</b>	<b>954,067</b>	<b>\$6,029,590.53</b>	<b>606,146</b>	<b>\$8,853,899.05</b>	<b>1,560,213</b>	<b>\$14,883,489.58</b>	

Noncommunicable diseases (NCDs), also known as chronic diseases, are the result of a combination of genetic, physiological, environmental and behavioral factors. The main types of NCDs are cardiovascular diseases (like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes. Metabolic risk factors contribute to four key metabolic changes that increase the risk of NCDs: raised blood pressure (hypertension), overweight/obesity, hyperglycemia (high blood glucose levels/diabetes) and hyperlipidemia (high levels of fat in the blood).

In terms of attributable deaths, the leading metabolic risk factor globally is hypertension (to



which 19% of global deaths are attributed), followed by overweight and obesity and raised blood glucose.<sup>1</sup> Barbados has therefore put the necessary treatment measures in place with regards to the risk factors that lead to the chronic illnesses. It is for this reason that the first and second largest BDS expenditures seen in the private sector are on hypertension and diabetes respectively with it being reversed in the public sector to diabetes and hypertension respectively.

### 2.0.6 The Drug Inspectorate

#### 2.0.6.1 Quality Assurance

##### BMCLA and other Stakeholders

During the 2018-19 fiscal year, the Barbados Drug Service Inspectorate has been in close collaboration with the Barbados Medicinal Cannabis Licensing Authority (BMCLA) and other stakeholders in preparation for the introduction of the Medicinal Cannabis Industry into Barbados. The BMCLA and the BDS share in the regulation of handling of medicinal cannabis in Barbados.

#### 2.0.6.2 Therapeutic Substances

In accordance with the Therapeutic Substances CAP330, all local pharmaceutical companies need to apply for a permit to import antibiotics and sulphonamides into Barbados. There were 414 such permits issued during the period of April 1, 2018- March 31, 2019. This represents a 4.5% increase over the previous year as given in

**Table 21 Therapeutic Substances Permits Issued for the Fiscal Years 2009-18**

Year	Permits Issued	% Change Over Previous Year
2009-10	465	
2010-11	652	40.2%
2011-12	523	-19.8%
2012-13	771	47.4%
2013-14	633	-17.9%
2014-15	727	14.8%
2015-16	707	-2.8%
2016-17	477	-32.5%
2017-18	396	-17.0%
2018-19	414	4.5%

<sup>1</sup> WHO, Non-Communicable Diseases June 1, 2018

**2.0.6.3 Importation and Exportation of Narcotic and Controlled Drugs**

A controlled drug can be defined as a substance that is tightly controlled by the government because it may be abused or cause addiction. The control applies to the way the substance is made, used, handled, stored, and distributed. Under the Drug Abuse (Prevention and Control) Act, 1990-14 the controlled substances include, but not limited to, opioids, stimulants, depressants, and hallucinogens as a few examples. Import and export authorisations and certificates were issued for narcotic and controlled substances, which fell under the purview of the 1961 Convention on Narcotic Drugs. **Table 22** gives the quantities of narcotics that were imported and exported during fiscal year 2018-19. Codeine shows the largest imports followed by pethidine and morphine. Pethidine however has the highest exports followed by codeine and morphine.

**Table 22: Import and Export Permits Issued for Narcotic and Controlled Drugs for 2018-19 and the Percentage Change over 2017-18**

Narcotic	Quantities in 2017-18		Quantities in 2018-19		% Change	
	Import (gm.)	Export (gm.)	Import (gm.)	Export (gm.)	Import (gm.)	Export (gm.)
Pethidine	3,610.5	2,579.98425	5179.98	2781.16	43.47%	7.80%
Morphine	1,547.625	42.8625	2226.75	451.20	43.88%	952.67%
Codeine	95,887.714	1,545.8304	83,988.224	2104.56	-12.41%	36.14%
Fentanyl	5.2	0.65575	20.054	0.791	285.65%	20.63%
Hydrocodone	Nil	Nil	0.061	Nil	N/A	N/A
Cocaine	Nil	Nil	Nil	Nil	N/A	N/A

**2.0.6.4 Precursor Chemicals**

In accordance with the International Narcotic and Control Board (INCB), permits were issued for the importation of ephedrine and pseudoephedrine precursor chemicals during the 2018-19 fiscal year. Permits for 200.05 kg of **ephedrine** was imported, 2271.572 kg of **pseudoephedrine** and 3,210 gallons of **acetone** during the 2018-19 fiscal year. There continues to be a challenge in getting the requests for the importation permits for acetone, hence this figure is grossly under reported here.

**2.0.6.5 Analytical Certificates**

The review and evaluation of analytical certificates is an important function of the Drug Inspectorate. As required by the Health Services (Control of Drugs) Regulations, CAP.44 subsection 8(c), “each batch of every drug manufactured or produced is numbered and a sample of each batch is submitted to an analyst for such analysis and assay as the Chief Medical Officer may approve.” In this regard a sample of each batch of every drug manufactured in Barbados is sent to an independent laboratory for analysis. Depending on the nature of the product, analytical tests may include description, identification, assay, pH, weight variation, disintegration, specific gravity, and water content. The Analytical Certificates are then submitted to the Barbados Drug Service for consideration and release. During the year under review, 167 analytical

certificates were issued.

**2.0.6.6 Psychotropic Substances**

With regards to the 1971 Convention on Psychotropic Substances, **Table 22** gives the comparative quantities imported and exported for the Schedule II, III and IV psychotropic substances during the 2018-19 fiscal year compared with the previous year. Phenobarbital, followed by methylphenidate, accounted for most imports and exports during the period under review and the previous year. These two psychotropic substances both showed a 44% importation increase in the 2018-19 fiscal year when compared with the 2017-18 fiscal year. This represented the greatest percentage differential over the two periods. The importation of bromazepam continues to be zero.

**Table 22: Schedules II, III, and IV Psychotropic Drugs Imported and Exported during Fiscal Year 2018-2019 as Compared to 2017-18 Fiscal Year**

Psychotropic Substances	Schedule	Amount Imported (gm.)	Amount exported (gm.)	Amount Imported (gm.)	Amount exported (gm.)	% Difference in Imports between 2017-18 and 2018-19 Fiscal Years
		2017-18		2018-19		
Methylphenidate	II	1815.16	321.038	2612.80	76.41	44%
Clobazam	IV	1455.00	4.50	1050.00	0.00	-28%
Diazepam	IV	3130.00	856.5	1446.00	1681.36	-54%
Clonazepam	IV	458.50	55.65	344.035	41.80	-25%
Midazolam	IV	1272.50	23.25	1190.73	631.75	-6%
Bromazepam	IV	0.00	0.00	0.00	0.00	0%
Phenobarbital	IV	6529.25	7393.5	9,417.07	3,397.21	44%
Nitrazepam	IV	0.00	0.00	2.10	0.00	N/A
Zolpidem	IV	354.07	25.00	200.20	0.00	-43%
Alprazolam	IV	441.475	16.925	375.00	39.15	-15%
Pentobarbital	III	6,708.60	0.00	0.00	0.00	-100%
Chlordiazepoxide	IV	548.95	62.50	220.25	0.00	-60%
Lorazepam	IV	1,205.00	132.76	755.00	321.42	-37%

**2.0.6.7 Precursor Chemicals**

In accordance with the International Narcotic and Control Board (INCB), permits were issued for the importation of 200.05 kg of **ephedrine**, and 2271.572 kg of **pseudoephedrine**.

**2.0.7 DRUG INFORMATION SERVICE**

*Nature and Scope:*

**2.0.7.1 Public Education Programmes**

The Barbados Drug Service’s Public Lecture Series consists of four annual lectures designed to raise awareness on public health issues and introduce our audience to emerging ideas and scientific investigation from leading experts in the areas of Chronic Non-Communicable Diseases (CNCs), family and child health issues, and behavioral health. **Table 23** lists the lectures hosted during the April 1, 2018- March 31, 2019 fiscal year. These lectures were aimed at empowering the public in protecting and improving overall health and wellness. They were well received. Private sector organisations also collaborated with the BDS in hosting these public lectures. On August 14, 2018, the Barbados Association of Endometriosis and PCOS (Polycystic Ovarian Syndrome), a registered charity in Barbados which seeks to educate citizens and advocate for those who have Endometriosis and Polycystic and Ovarian Syndrome, co-hosted the BDS public lecture.

**Table 23: Public Lectures Held During Fiscal Year 2018-19**

<b>Date</b>	<b>Topic</b>	<b>Speaker</b>
May 8, 2018	“Drilling Down the Numbers 2018 - Getting Hyped about Hypertension!!”	<b>Keynote speaker:</b> Dr. Kenneth Connell, MMBS DM (UWI)
August 14, 2018	Endometriosis and Polycystic Ovarian Syndrome (PCOS)	<b>Keynote speaker:</b> Dr. Damian Best, OBGYN  <b>Panel</b> Ms. Dawn Williams, Ms. Jasmine Evelyn, and Ms. Vania Patrick-Drakes
November 13, 2018	“Diabetes and Your Mental Health- What We Need to Know”	<b>Keynote Speakers:</b> Dr. Kadisha Douglin, Psychiatrist Dr. Tania Whitby-Best, General Practitioner
March 12, 2019	“Love Your Skin – The Dangers of Bleaching”	<b>Keynote Speaker:</b> Dr. Andrew LeRoy Forde, Dermatologist

**2.0.7.2 Drug Information Requests and Category B Approvals**

The Drug Information Centre processes Category B applications and heightens the access to public information through on-going research in response to queries from health providers and the public, on drug related matters. A total of **396** queries were processed during the 2018-19 fiscal year under review.

Category B Drugs are institution specific and are listed in the BNDF accordingly. Applications with respect to these drugs must be made through the Medical Officers of Health in the polyclinics or Out-Patient clinics and the Consultants, at the Queen Elizabeth, Psychiatric, and Geriatric public hospitals

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as indicated in the Barbados National Drug Formulary.

Table 24 shows that during the 2018-19 fiscal year, 2,806 Category B drugs were approved at a cost of \$716,361.61 or 8% of the total BDS expenditure on pharmaceuticals. This expenditure on Category B drugs in 2018-19 fiscal year represents a 4% increase over that in the previous year where the number of approvals was approximately 50% less than in the 2018-19 period.

**Table 24: SAD/Category B Expenditure versus Public Sector Drug Expenditure for the Fiscal Years 2009 – 2019**

Year	Total Drug Expenditure in Public Sector based on drugs purchased	Specially Authorised Drugs/ Category B Drugs**					
		Approvals	% Change in Approvals	Expend.	% Change in Expend.	Average Cost	Expend. % to Total
2009-10*	\$12,150,516.00	1,426	49%	\$198,202.38	-34%	\$138.99	2%
2010-11	\$12,451,937.00	982	-31%	\$125,953.12	-36%	\$128.26	1%
2011-12	\$11,765,288.00	1,016	3%	\$123,919.64	-2%	\$121.97	1%
2012-13	\$13,481,501.00	1,183	16%	\$113,894.70	-8%	\$96.28	1%
2013-14	\$11,998,305.00	1,796	52%	\$136,233.34	20%	\$75.74	1%
2014-15	\$12,444,809.00	1,708	-5%	\$226,953.34	67%	\$132.88	2%
2015-16	\$10,357,294.00	1,424	-17%	\$124,943.90	-45%	\$87.74	1%
2016-17	\$10,408,527.00	1,858	30%	\$174,862.37	40%	\$94.11	2%
2017-18	\$10,915,702.00	1,872	1%	\$419,840.32	140%	224.27	4%
2018-19	\$8,830,556	2,806	50%	\$716,361.61	71%	\$255.30	8%

\* Tamiflu® was purchased for the H<sub>1</sub>N<sub>1</sub> treatment

\*\* SADs were replaced with the Category B Drugs in the 2015-16 fiscal year

### 2.0.7.3 Continuing Education

The BDS sees the value of its staff and therefore supports them through offering free continuing education programmes. This not only shows employees that their work is valued but that each employee is valued in reaching the overall goals of the organisation.

Continuing education can boost an employee's career in several ways. On the surface, it may seem like these extra courses and certifications only solely benefit employees. However, continuing education is also a great investment for the department on a whole and by extension the external stakeholders.

The Continuing Education programmes are mainly structured with the employees in mind. First to improve their skills in an ever-evolving business landscape where new technologies are introduced frequently and also to show employees that they are valued. This, in turn, effectively improves employee's work performance and commitment to the organisation.

For the year under review the following In-Service Continuing Education courses were offered to staff:

- I. The Treatment of Hypertension in Barbados by Mrs. Terrane Waterman-Pennegan
- II. The Use of HAART in Barbados by Mr. Lindsay Bynoe and Mrs. Rosamund Lovell
- III. Effective Communication and Good Customer Relations by Mrs. Kim Tudor, National Institute of Service Excellence

## 2.0.8 PHARMACOVIGILANCE

### *Nature and Scope:*

#### 2.0.8.1 Drug Monitoring

Barbados continued its collaboration regionally and internationally to monitor adverse drug reactions. Webinars were the main communication medium used for sharing information on a regional level of the Americas through it's Network of Focal Points for Pharmacovigilance. These webinars provided updates on active Pharmacovigilance projects; regulatory measures; medicines withdrawn from the global market and; training meetings and courses. The BDS continued to monitor the adverse reports and took remedial measures if and when necessary. The adverse reports received were submitted to the World Health Organisation's database.

The Barbados Drug Service hosted the following Pharmacovigilance Continuing Education training and Presentations to various health professionals during the period under review:

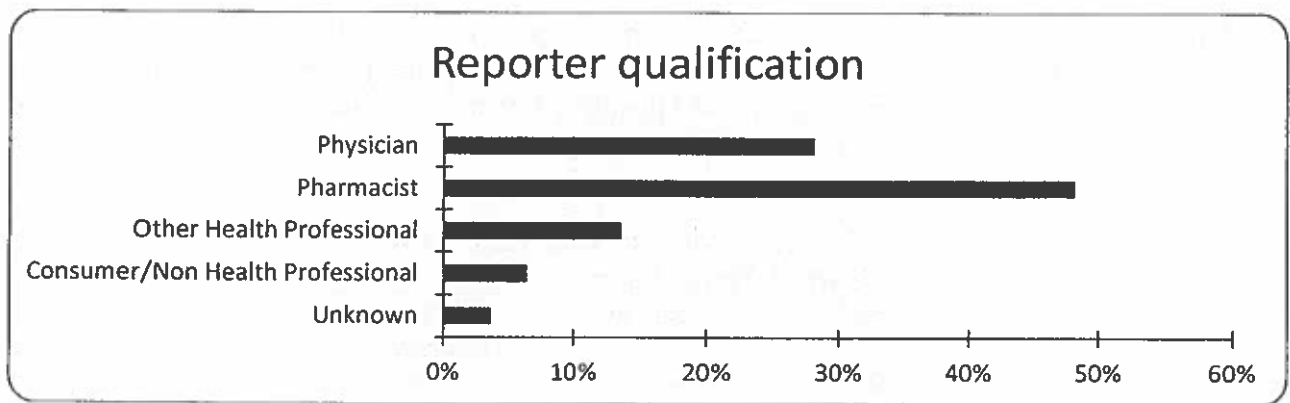
- **May 31, 2018** - Presentation delivered to the Barbados Pharmaceutical Society on Pharmacovigilance by the Pharmacovigilance Officer
- **June 19-21, 2018** - Pharmacovigilance Workshop presented in collaboration with Roche Pharmaceuticals Pharmacovigilance division to BDS Pharmacists.
- **July 10 2018** - Pharmacovigilance Workshop with nurses at St. Phillip District Hospital
- **November 20-22 2018** - Presentation to the BDS Pharmacists by Mr.Lindsay Bynoe on Highly Active Antiretroviral Therapy

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There were 110 documented pharmacovigilance reports received by the BDS during the 2018-2019 fiscal year, the majority of which were from pharmacists as reported in **Table 25** and **Figure 2**.

**Table 25: 2018-19 Pharmacovigilance Reports**

Reporters' Qualification	Count
Pharmacist	53
Physician	31
Other Health Professional	15
Consumer/Non Health Professional	7
Unknown	4
<b>Total</b>	<b>110</b>



**Figure 2:** Pharmacovigilance reports by Reporter

**Table 26** and **Figure 3** shows the top frequently reported active ingredients.

**Table 26: Top Reported Drugs for the Fiscal Year 2018-19**

INTERNATIONAL NON-PROPRIETY NAME	Number of Reports in 2018-2019
Atorvastatin	13
Valsartan	11
Amlodipine	7
Tamsulosin	6
Metformin	4
Indapamide	4
Gliclazide	4
Amlodipine/Valsartan	4
Bisoprolol	3

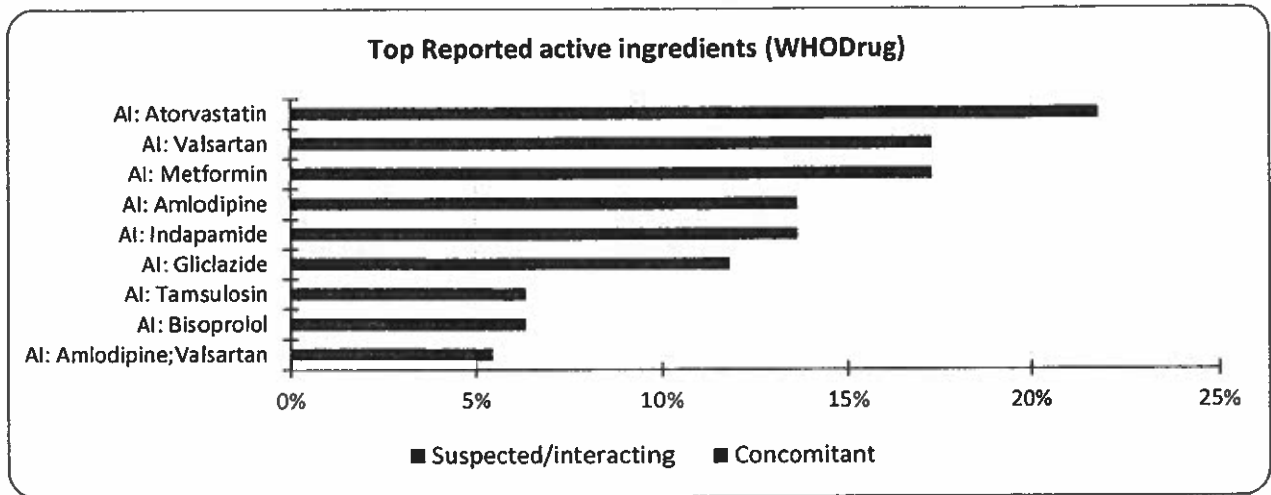


Figure 3: Top Reported active ingredients (WHO Drug)

Table 27 shows the most affected body systems that were reported. Gastrointestinal disorders were the number 1 ranked, followed by general disorders and administration site conditions in second position, and product issues in third position. Ear and labyrinth disorders together with renal and urinary disorders were the least reported

Table 27: Adverse Reactions Reported in the 2018-19 Fiscal Year

Adverse Reactions Reported	Number of Occurrences
Gastrointestinal disorders	29
General disorders and administration site conditions	23
Product issues	19
Nervous system disorders	18
Musculoskeletal and connective tissue disorders	9
Eye disorders	8
Cardiac disorders	4
Psychiatric disorders	3
Injury, poisoning and procedural complications	2
Ear and labyrinth disorders	1
Renal and urinary disorders	1

2.0.9 RESOURCE MANAGEMENT

The BDS Financial Statement and The BDS Expenditure and Prescription Volume for the April 1, 2018- March 31, 2019 fiscal year are at Appendix A and B respectively.

The BDS, a department under the Ministry of Health and Wellness, aligned its efforts to ensure continued universal access of pharmaceuticals by all Barbadians through prudent resource management. Together with the recategorisation of the formulary into Categories A, B and C drugs, in order to promote rational drug use, the BDS also carried out monthly and annual audits



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of all the Private Participating Pharmacies together with periodic audits of the BDS public pharmacies. Stock taking was carried out from February 18 – March 8, 2019 at the 14 BDS, Psychiatric Hospital and Ladymeade Reference Unit pharmacies.

As shown in **Table 28** in the 2018-19 fiscal year, there was a marginal decrease in the BDS expenditure which accounted for 6.2 percent of the total health care expenditure, versus 6.4% in the 2017-18 fiscal year. This represented a per capita public expenditure on pharmaceutical services of \$53.29 versus \$74.38 in the previous year.

**Table 28: BDS Dispensing Service as a Percentage of the Total Health Expenditure**

Year	Estimated End of Calendar Year Population	Total Health Expenditure (Exp.) *	Total BDS Dispensing Exp. (\$)	Total BDS Dispensing Exp. as a % of Total Health Exp.	BDS Per Capita Exp. (\$)	MHW Per Capita Exp. (\$)	BDS Per Capita Exp. vs MHW Exp.
2009-10	275,848	384,096,541	52,712,466	13.7%	191.09	1,392.42	14%
2010-11	276,507	355,847,415	47,026,770	13.2%	170.07	1,286.94	13%
2011-12	276,781	366,985,247	22,552,464	6.1%	81.48	1,325.90	6%
2012-13	277,674	347,705,764	24,118,457	6.9%	86.86	1,252.21	7%
2013-14	277,515	342,381,895	22,642,080	6.6%	81.59	1,233.74	7%
2014-15	274,344	337,392,974	23,134,910	6.9%	84.33	1,229.82	7%
2015-16	276,633	334,849,180	20,331,725	6.1%	73.50	1,210.45	6%
2016-17	284,000**	335,092,495	20,621,420	6.2%	72.61	1,179.90	6%
2017-18	286,388**	332,532,954	21,301,675	6.4%	74.38	1,161.13	6%
2018-19	287,025***	245,300,513	15,294,891	6.2%	53.29	854.63	6%

\* Revised Estimates Provided from Barbados Approved Estimates 2018-19

\*\* Provided from Barbados Statistical Services 2018

\*\*\* Barbados Wikipedia End of 2019 Estimate

**Table 29: BDS Revised Estimates and Actual Expenditure for Fiscal Year 2018-19**

Budget Heads	Revised Estimates (\$)	Actual Expenditure (\$)	Revised Estimates (\$)	Actual Expenditure (\$)	% Change in Actual Expenditure in 2018-19 vs. 2017-18
	2017-18		2018-19		
Total Personal Emoluments	5,638,970	5,252,164	5,593,228	5,422,299	3.2%
Total Goods and Services	21,747,302	21,301,675	21,821,330	17,385,634	-18.4%
Total Capital	62,237	49,463	179,033	155,605	214.6%
Total Expenditure	27,448,509	26,603,302	27,593,591	22,963,538	-13.7%

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**Table 29** shows that in comparison of the actual expenditure in the year under review versus the previous year, there were increases of 3.2% and 214.6% in the areas of personal emoluments and total capital respectively. Decreases were seen in total goods and services and total expenditure in the amount of 18.4% and 13.7% respectively. The 214.6% increase in expenditure in total capital in 2018-19 is because of the purchase of the MedData software.

### Appendix A - Financial Statement 2018-19

#### Receipts and Payments Account for Period April 1, 2018 to March 31, 2019 with comparative figures for 2017-18

<u>Receipts</u>	2018 - 19	2017 - 18
	\$	\$
Accountant General*	27,593,591	27,448,509
Recertification of Private Pharmacies	11,800	8,700
District Pharmacies (Sale of pharmaceuticals)	481,501	656,736
<b>Total</b>	<b>28,086,892</b>	<b>28,113,945</b>

#### Payments

	\$	\$
Total Personal Emoluments	5,593,228	5,638,970
Travelling	57,950	59,670
Utilities	132,161	24,000
Rental of Property	22,756	22,756
Library	16,021	17,597
Supplies & Materials	9,611,504	11,323,880
Maintenance of Property	28,300	35,038
Operating Expenses	7,506,070	9,795,586
Machinery and Equipment	28,210	29,463
Furniture and Fixtures	-	-
Computer Software	127,395	-
Professional Services	10,868	-
Savings	4,952,429	1,166,985
<b>Total</b>	<b>28,086,892</b>	<b>28,113,945</b>

#### **\*Accountant General**

Personal Emoluments	\$5,593,228	\$5,638,970
Other	\$21,821,330	\$21,747,302
Capital	\$179,033	\$62,237
<b>Total</b>	<b>\$27,593,591</b>	<b>\$27,448,509</b>

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Appendix B – Drug Service Expenditure and Prescription Volume

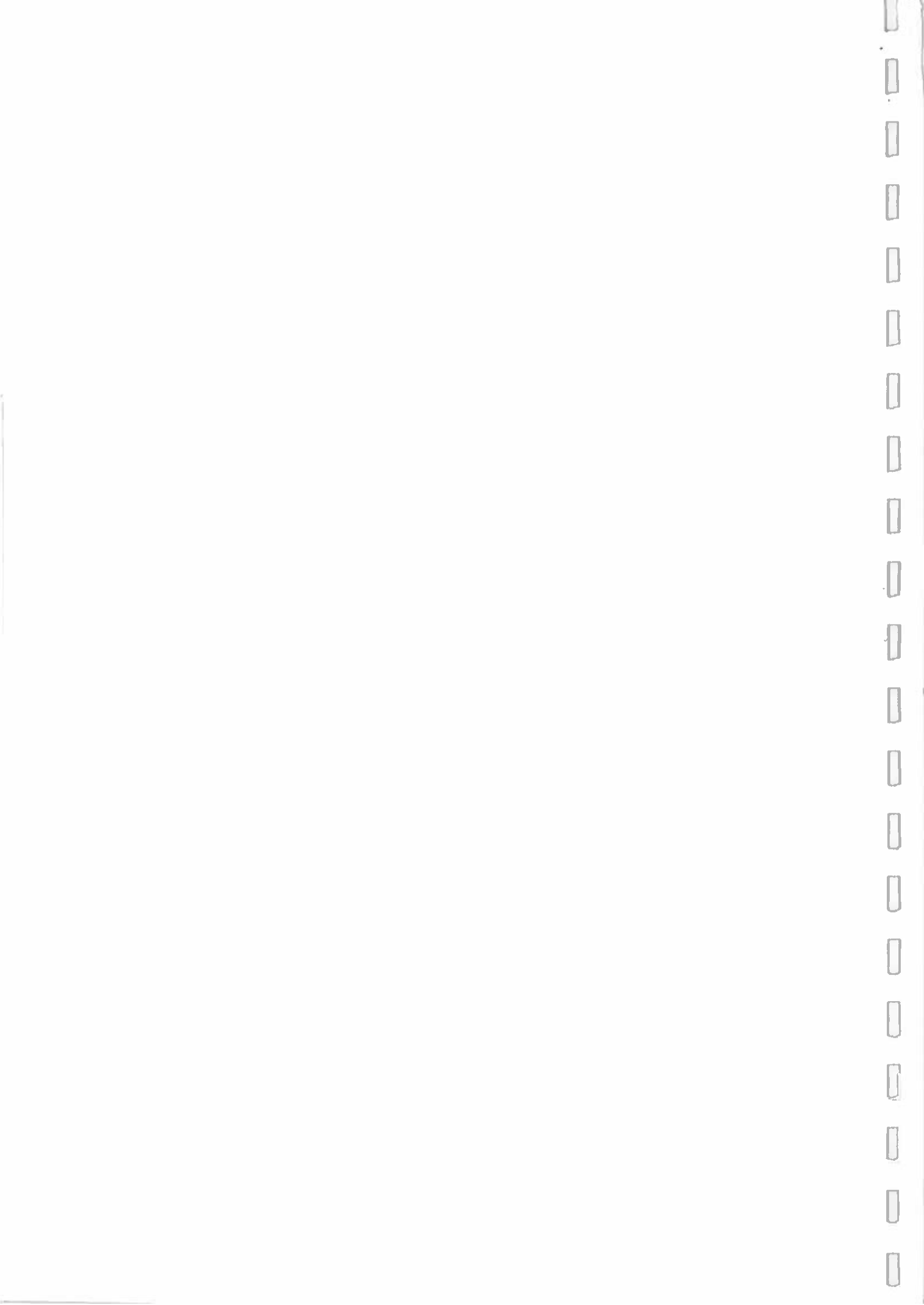
YEAR	PUBLIC EXPENDITURE ON MEDICINES (\$)	SBS EXPENDITURE ON MEDICINES (\$)	TOTAL EXPENDITURE ON MEDICINES (\$)	PUBLIC PRESCRIPTION (PRESC.)	PUBLIC PRESC. AVG. COST (\$)	PUBLIC AVG. MTHLY PRESC.	PRIVATE PRESC.
1982-83	2,720,368	140,756	2,861,124	0	0	0	21,126
1983-84	4,291,991	207,772	4,499,763	262,287	16	21,857	26,384
1984-85	5,403,538	341,990	5,745,528	345,613	16	28,801	50,220
1985-86	7,713,963	435,745	8,149,708	501,416	15	41,785	41,390
1986-87	7,793,103	1,508,793	9,301,896	660,045	12	55,004	148,082
1987-88	8,536,816	3,346,816	11,883,632	654,679	13	54,557	300,000
1988-89	7,605,795	3,627,183	11,232,978	649,629	12	54,136	362,718
1989-90	9,269,966	4,701,687	13,971,653	859,474	11	71,623	371,327
1990-91	11,001,320	5,667,514	16,668,834	857,252	13	71,438	449,446
1991-92	9,308,874	5,896,776	15,205,650	843,450	11	70,288	425,727
1992-93	9,369,846	6,330,465	15,700,311	840,569	11	70,047	494,681
1993-94	9,440,576	7,228,270	16,668,846	844,789	11	70,399	555,000
1994-95	10,283,264	8,307,134	18,590,398	845,219	12	70,435	578,808
1995-96	9,612,632	9,979,983	19,592,615	818,927	12	68,244	692,735
1996-97	10,270,825	11,923,867	22,194,692	446,987	23	37,249	743,765
1997-98	10,346,838	10,857,428	21,204,266	502,689	21	41,891	803,990
1998-99	8,763,104	9,273,790	18,036,894	504,632	17	42,053	806,950
1999-00	12,589,080	13,590,363	26,179,443	527,046	24	43,921	786,738

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PUBLIC EXPENDITURE ON MEDICINES (\$)	SBS EXPENDITURE ON MEDICINES (\$)	TOTAL EXPENDITURE ON MEDICINES (\$)	PUBLIC PRESCRIPTION (PRESC.)	PUBLIC PRESC. AVG. COST (\$)	PUBLIC AVG. MTHLY PRESC.	PRIVATE PRESC.	PRIVATE PRESC. AVG. COST (\$)	PRIVATE AVG. MTHLY PRESC.	PUBLIC EXP - % of TOTAL EXP	PRIVATE EXP. % of TOTAL EXP.
14,687,363	15,798,637	30,486,000	532,363	28	44,364	833,050	19	69,421	48	52
15,439,374	17,360,242	32,799,616	476,955	32	39,746	921,110	19	76,759	47	53
15,966,640	20,259,106	36,225,746	519,438	31	43,287	955,000	21	79,583	44	56
8,323,481	21,851,776	30,175,257	637,851	13	53,154	990,943	22	82,579	28	72
8,262,528	23,115,488	31,378,016	687,578	12	57,298	1,113,093	21	92,758	26	74
8,930,806	30,540,237	39,471,043	700,604	13	58,384	1,331,537	23	110,961	23	77
11,403,711	31,587,931	42,991,642	659,750	17	54,979	1,846,882	17	153,907	27	73
10,439,220	36,535,775	46,974,994	662,677	16	55,223	2,055,016	18	171,251	22	78
12,932,110	36,633,590	49,565,700	731,639	18	60,970	N/A	N/A	0	26	74
12,150,516	40,561,950	52,712,466	778,267	16	64,856	N/A	N/A	0	23	77
12,451,937	34,574,833	47,026,770	814,400	15	67,867	N/A	N/A	0	26	74
11,765,288	10,787,176	22,552,464	1,082,101	11	90,175	879,104	12	73,937	52	48
13,481,501	10,636,956	24,118,457	1,206,351	11	100,529	864,335	12	71,637	56	44
11,998,305	10,643,775	22,642,080	1,244,739	10	103,728	828,328	13	69,027	53	47
12,444,809	10,690,101	23,134,910	1,287,986	9	107,332	841,063	13	69,901	53	47
11,662,572	8,669,153	20,331,725	1,120,971	10	93,414	827,374	10	68,948	57	43
10,408,527	9,385,713	20,621,420	1,221,568	9	101,797	808,346	12	67,362	54	46
10,080,029	9,881,643	19,961,672	1,170,306	9	97,526	827,067	12	68,922	50	50
8,830,556	6,464,335	15,294,891	1,116,447	8	93,037	649,363	10	54,114	58	42









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