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# DOMINICA 2010-11 NATIONAL HEALTH ACCOUNTS AND HIV SUBACCOUNTS

November 2013

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# ACRONYMS

|                |  |
|----------------|--|
| <b>ART</b>     | Antiretroviral Therapy                                 |
| <b>ARV</b>     | Antiretroviral (drugs)                                 |
| <b>CNCD</b>    | Chronic Noncommunicable Diseases                       |
| <b>CPA</b>     | Country Poverty Assessment                             |
| <b>EC\$</b>    | Eastern Caribbean Dollar                               |
| <b>EOC</b>     | Episode of Care  |
| <b>GDP</b>     | Gross Domestic Product                                 |
| <b>ICHA</b>    | International Classification for Health Accounts       |
| <b>IEC</b>     | Information, Education and Communication               |
| <b>LAC</b>     | Latin America and the Caribbean                        |
| <b>MOH</b>     | Ministry of Health                                     |
| <b>NGO</b>     | Nongovernmental Organization                           |
| <b>NHA</b>     | National Health Accounts                               |
| <b>NHARP</b>   | National HIV/AIDS Response Programme                   |
| <b>NHI</b>     | National Health Insurance                              |
| <b>OECD</b>    | Organization for Economic Co-operation and Development |
| <b>OOP</b>     | Out-of-Pocket  |
| <b>PAHO</b>    | Pan American Health Organization                       |
| <b>PLHIV</b>   | People Living with HIV                                 |
| <b>PMH</b>     | Princess Margaret Hospital                             |
| <b>PMTCT</b>   | Prevention of Mother-to-Child Transmission             |
| <b>SHA</b>     | System of Health Accounts                              |
| <b>THE</b>     | Total Health Expenditure                               |
| <b>THE-HIV</b> | Total Health Expenditure on HIV                        |
| <b>USAID</b>   | United States Agency for International Development     |
| <b>UWI</b>     | University of the West Indies                          |
| <b>VCT</b>     | Voluntary Counseling and Testing                       |
| <b>WHO</b>     | World Health Organization                              |



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# EXECUTIVE SUMMARY

## INTRODUCTION AND CONTEXT

Dominica is an upper middle-income country in the Eastern Caribbean, with a population of approximately 72,000 (Eastern Caribbean Central Bank 2013). Average economic growth in Dominica over the past decade, 3.7 percent, has been greater than the regional average, 2.3 percent (World Bank 2013). This is partly due to the Government of Dominica's recent restructuring of the economy by diversifying away from the agricultural sector and into service sectors, such as tourism. The government has also made progress in reducing unemployment and poverty. However, strategies to provide access to affordable, quality health care, especially for the poor, remain a development priority. While the health system in Dominica has performed well in delivering primary care, secondary care is limited and advanced care is not available to all income groups, as accessing it often requires travel to off-island facilities. This poses a significant risk to the health of the population of Dominica, as its disease burden becomes more complex.

A lack of solid health financing information for evidence-based planning, and growing momentum for health reforms inspired the request for a National Health Account (NHA) estimation by the Government of Dominica. Technical assistance to produce these estimates was provided by the United States Agency for International Development's (USAID's) Health Systems 20/20 Caribbean Project. This report presents the findings of the Dominica NHA and HIV Subaccounts exercise for fiscal year 2010-11.

## OBJECTIVES AND METHODOLOGY

NHA is an internationally standardized resource tracking methodology that tracks the flows of spending in a health system over a specified period of time. To date, over 130 countries have conducted an NHA estimation. NHA tracks health resource flows, from financing sources (e.g., government, households, donors) that distribute the resources to managing bodies (financing agents) that allocate the funds among health care providers and by health function. NHA answers questions such as: Who pays for health care? How much? For what services? Actual expenditures, rather than budget inputs, are used to detail funding flows. NHA data are essential for informing resource allocation decisions and for planning health financing and health system reforms. Similarly, the HIV subaccount tracks spending on HIV/ AIDS programs.

The Dominica 2010-11 NHA and HIV subaccount exercise was conducted between July 2012 and October 2013. The specific objectives for conducting the NHA include gaining a better understanding of spending on overseas tertiary care, identifying what the burden of out-of-pocket (OOP) expenditures is on households, and getting data on insurance spending as a basis for potential future discussions on financing mechanisms for health. In addition, it is important to understand what is currently being spent on HIV/AIDS prevention and treatment to enable the MOH to plan for future financing.

To gather NHA data, the NHA technical team in collaboration with the MOH surveyed institutions including government, employers, nongovernmental organizations (NGOs), health insurance providers, and donors on their health expenditures in 2010-11. Household OOP expenditures were estimated using the 2008-09 Country Poverty Assessment dataset. Health spending of people living with HIV (PLHIV) was gathered via a separate survey. These data were compiled and analyzed according to the NHA methodology, and findings were validated and disseminated for use.

## FINDINGS

### GENERAL NHA

In 2010-11, total health expenditure (THE) in Dominica was EC\$78.4 million (US\$29.3 million), which amounts to EC\$1,078 (US\$403) per capita or 6 percent of the country's gross domestic product (GDP).

**Who paid for health care?** In 2010-11, the majority of health expenditure was financed by the Government of Dominica. The government spent a total of EC\$49.0 million to finance public health providers and administration of the health sector (62 percent of THE). Household's direct payments for health care were the next largest source of financing. These OOP expenditures represented EC\$26.7 million (34 percent of THE). External donors also supported the health sector in Dominica, to a small extent, representing 3 percent of THE. Employers provided 1 percent of THE through their contributions to Social Security and subsidizing health insurance of their employees.

**Risk pooling and OOP spending:** The public sector, which comprises the MOH and the Dominica Social Security Board, managed a total of EC\$49.5 million (63 percent of THE), providing some risk pooling. The MOH, which was by far the principal public sector health financing agent, pooled its resources to support public health facilities and administration of the health sector. Households were the second largest health financing agent, spending OOP a total of EC\$26.7 million (34 percent of THE). This means that over one-third of THE is unpooled and therefore offers no risk protection for those incurring the expenditure. Of the EC\$26.7 million that households spent OOP, the majority was used to purchase private health care at private outpatient clinics or private hospitals (EC\$17.6 million, or 66 percent of total OOP spending). A considerable portion of OOP spending was also spent at Princess Margaret Hospital (13 percent of THE).

NGOs managed only a small portion of THE, 2 percent. Risk pooling via private insurance companies was negligible, accounting for 1 percent of THE.

**Where, and on what services, was money spent?** The majority of health spending in 2010-11 occurred in government-owned health facilities: EC\$35 million at Princess Margaret Hospital (45 percent of THE), EC\$5.3 million at district hospitals (6.8 percent of THE), and EC\$10.9 million at health centers (13.9 percent of THE). Private providers consumed nearly one-quarter of THE (EC\$18 million, or 23 percent of THE). The MOH, as the principal administrator of the health sector, accounted for 6 percent of THE, and population-based prevention activities for three percent. Spending at providers off-island accounted for EC\$0.9 million (1.2 percent of THE).

The vast majority of health expenditure was used to pay for curative health services: EC\$63.8 million (81 percent of THE). Outpatient curative care accounted for 45 percent of THE and inpatient curative care for 36 percent. Capital investment represented 8 percent of THE. Six percent of THE financed the administration of the health sector and 4 percent financed population-based prevention activities.

### HIV SUBACCOUNTS

In 2010-11, total health expenditure on HIV (THE-HIV) was EC\$1.9 million (US\$718,988), or 2 percent of THE.

Similar to overall health spending, the Government of Dominica was the principal source of finance for Dominica's HIV/AIDS response, contributing EC\$1.1 million (56 percent of THE-HIV). However, in contrast to their financing role in the overall health sector, external donors played a significant role in the financing of Dominica's HIV/AIDS response in 2010-11, contributing about EC\$843,044, or 44 percent of total HIV spending. The data collected in the household survey of PLHIV found that households made no OOP expenditures on HIV/AIDS-related care in public facilities in 2010-11, in contrast to the 34 percent of overall health care services that household OOP spending covers.

Nearly three-quarters of HIV/AIDS spending was pooled and managed by the Government of Dominica, via the National HIV/AIDS Response Program (EC\$1.4 million, or 72 percent of THE-

HIV). NGOs also played a significant role in the administration of HIV/AIDS expenditure, accounting for 22 percent of THE-HIV. Overseas organizations, predominantly external donor organizations, pooled and administered 6 percent of THE-HIV.

The majority of THE-HIV was spent at public health facilities, 17 percent at Princess Margaret Hospital, 21 percent at health centers, and 2 percent at district hospitals. Over half of THE-HIV was spent at providers of population-based prevention activities (which could include public health facilities): EC\$1.1 million or 59 percent of THE-HIV.

In terms of health care functions, prevention activities accounted for two-thirds of THE-HIV. These activities include prevention of mother-to-child transmission services; voluntary counseling and testing; information, education and communication programs; and sexually transmitted infection prevention and condom distribution activities. Sixteen percent of THE-HIV was used for purchasing HIV inpatient curative services and 15 percent for HIV outpatient curative services. The purchase of antiretroviral drugs represented 1 percent of THE-HIV.

## POLICY IMPLICATIONS OF THE NHA FINDINGS

The NHA and HIV Subaccounts findings help demonstrate the extent to which actual health expenditure reflected government priorities, and shows in what ways health financing reforms need ongoing attention and intensification.

- **The share of THE contributed by the government demonstrates its strong commitment to health. Given rising health care costs, future analysis should investigate the efficiency of government spending and possible funding gaps:** Government spending on health in 2010-11 was 62 percent of THE and 15 percent of general government expenditure. Both are above the regional averages of 59.0 percent and 11.2 percent, respectively (WHO 2013). This demonstrates a strong commitment of the Government of Dominica to support the health care of its population. However, given the likely increase in the cost of and demand for health care services, sustaining and possibly increasing this level of financing will become increasingly important. While the already high proportion of government spending on health may somewhat limit the fiscal space, several options exist for the Government of Dominica to increase its funding for health.  
  
High reliance on public funding for health also makes it even more necessary to understand whether these resources are being used efficiently and allocated cost-effectively, or whether there is any waste or duplication. Comparison of NHA data with planned spending in Dominica's Strategic Plan for Health will also be useful in understanding the extent to which resources are being used for their intended purposes.
- **THE, though on par with the regional average, may be insufficient going forward:** THE as a percentage of GDP in Dominica matches the Caribbean average of 6 percent (WHO 2013). However, given projected increases in costs of and demand for health care, and the Government of Dominica's commitment to providing universal access to affordable health care, Dominica will likely need to better understand its financing needs and options for mobilizing increased resources.
- **To protect its population against potentially catastrophic health expenditure, Dominica should aim to reduce its reliance on direct OOP spending on health care in favor of schemes that pool risk across the population:** At 34 percent of THE, OOP spending in Dominica is high, both when compared to the World Health Organization's (WHO's) suggested benchmark of about 20 percent of THE (WHO 2010) and when compared to the regional average of 32 percent (WHO 2013). This finding points to the importance of financing reforms that will allow for prepayment and risk pooling in order to ameliorate the high risk of burdensome OOP payment obligations on the poorest and sickest members of the population. Understanding why households incur OOP expenditure will enable the government to respond with reforms that most appropriately

address these causes and successfully protect households from potentially catastrophic health expenditures.

- **Low levels of spending at off-island facilities, predominantly financed OOP, indicate lack of financial risk protection and high costs as potential barriers to accessing tertiary care:** Per capita spending at overseas facilities was very low in 2010-11, at EC\$13. For a country with an ageing population and a high burden of chronic non-communicable diseases that does not provide specialized care on island, it would seem likely that there is an unmet need for tertiary care. Seventy percent of spending on overseas care is funded through household OOP expenditure. For those who can afford it, overseas care is sometimes covered by private health insurance but those without private insurance appear to have no financial risk protection and may face catastrophic expenses.

As the government explores improvements in tertiary care provision, further analysis should be conducted to reveal why individuals seek care overseas and the extent to which the high cost (of treatment and travel) represents a barrier to access for lower-income groups in Dominica. The analysis should be extended to include considerations of what investments may be needed to scale up local health services (either through partnership arrangements with private specialists on-island, off-island health providers, or telemedicine) as part of the overall health systems strengthening program.

- **Low levels of OOP spending by PLHIV imply good financial risk protection for those receiving care in public facilities:** HIV Subaccounts findings show that, in contrast to the broader population, PLHIV do not incur OOP costs for their health care in public facilities. These comparisons indicate that government and donor-led efforts to ensure financial coverage for this vulnerable population have been quite successful. However, analysis of OOP expenditure by those seeking care in private or overseas facilities should be conducted in order to understand the financial burden of PLHIV not seeking care in public facilities.
- **The financing gap in the HIV response will likely be for prevention services:** External donor funding represented 44 percent of THE-HIV in 2010-11. The bulk of these donor HIV resources were allocated to prevention efforts and technical assistance for government administration. While this focus on prevention is laudable, and reflects its priority in the 2010–2019 National HIV/AIDS Strategic Plan, the Government of Dominica will need to identify resource mobilization strategies for filling the funding gap for HIV prevention services that will be created by the expected decrease in donor funding.

## RECOMMENDATIONS FOR NHA INSTITUTIONALIZATION

In addition to general policy recommendations on health financing for the country, this report provides some specific recommendations for sustaining regular NHA estimations in Dominica in the future.

- **Establish formal MOH commitment to conduct routine NHA estimations** to sensitize stakeholders as to their role in NHA production, both from those who can use the results and those who contribute data to the estimation. Generate awareness of the utility and policy applications of NHA data to build demand for future rounds of NHA.
- **Facilitate the conduct of regular household health expenditure and utilization surveys** to ensure cost-effective collection of health expenditure and utilization data.
- **Continue strong relationship with NHA technical resources** such as the Centre for Health Economics of the University of the West Indies, the Pan American Health Organization, WHO, and USAID to support continued capacity building and ongoing institutionalization.



# I. INTRODUCTION

Health expenditure information, compiled through a National Health Accounts (NHA) estimation, is essential for improving resource allocation, informing health policies, and planning for future health programs and health financing mechanisms. This section provides a brief overview of the health system and context in which the Dominica NHA estimation was conducted.

## I.1 COUNTRY CONTEXT

Dominica is an upper-middle income country in the Eastern Caribbean with an estimated population of 72,729 (CARICOM 2013) and a 2011 gross domestic product (GDP) per capita of EC\$17,639 (US\$6,597) (Eastern Caribbean Central Bank 2013). The economy has traditionally been dependent on agriculture – primarily bananas – but recently the government has increasingly encouraged expansion of tourism and there are plans to develop the offshore financial sector. In 2003, the country underwent economic restructuring, which eliminated price controls, privatized the state banana company, and increased taxes (CIA 2013). This restructuring fostered economic growth and by 2006 real growth in GDP had reached a two-decade high of 10 percent. While the recent global recession slowed growth in Dominica – GDP growth has been less than 2 percent since 2010 (CIA 2013) – the Dominican economy has outperformed the regional average over the past decade, with an average GDP growth rate of more than 3.7 percent compared to the regional average of 2.3 percent (World Bank 2013).

Despite the economic growth, Dominica GDP per capita significantly lags other islands in the Eastern Caribbean region, such as St. Kitts and Nevis (US\$13,969) and Antigua and Barbuda (US\$13,207). Poverty and unemployment persist: in 2009, an estimated 29 percent of the population had income levels below the poverty line (CIA 2013). Unemployment was 14 percent for the general population and as high as 26 percent among the poor (Commonwealth of Dominica 2010a).

As in other countries in the region, natural disasters threaten Dominica's economy. A significant level of working-age adults emigrate. The island's lack of economies of scale and physical remoteness make it challenging to compete in the international market.

## I.2 HEALTH SYSTEM CONTEXT<sup>1</sup>

Over the past two decades, morbidity and mortality indicators in Dominica have improved; life expectancy at birth rose from 74.0 years in 1992 to 77.6 years in 2012 (UNDP 2013). This is higher than the Latin America and Caribbean (LAC) regional average of 73.59 years. The infant mortality rate in Dominica (9.30 deaths per 1,000 live births) is half of the LAC average (18.92 deaths per 1,000 live births). Under-five mortality rates in Dominica are also well below the LAC average, 11.40 and 22.55 deaths per 1,000 live births, respectively. Dominica has very high vaccine coverage rates (WHO 2013). The 10 leading causes of death are dominated by chronic noncommunicable diseases (CNCDS), including malignant neoplasms, hypertensive disease, heart disease, diabetes, cerebrovascular disease, and asthma (PAHO 2007). The leading causes of mortality among children under five years are respiratory distress syndrome, fetal malnutrition, prematurity, and congenital anomalies (PAHO 2007).

While Dominica's primary health care system is strong, there is limited secondary care and virtually no tertiary care available on the island. Secondary care for the entire island is offered at Princess Margaret Hospital (PMH); demand for secondary care at PMH is high and often leads to

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<sup>1</sup> Except where noted, information in this section comes from SHOPS and Health Systems 20/20 (2012). Relevant statistics have been updated to the latest figures.

overcrowding. Patients requiring tertiary care must travel off-island often at great cost. The increasing burden of CNCDs poses a particular challenge in Dominica by increasing the need for more complex and specialist care such as amputations, cardiovascular events, and diabetic retinopathy/ blindness.

Dominica has a network of 52 health centers and two district hospitals spread across seven districts in two administrative regions. Each district has multiple Type I health center and one Type III health center. The Type I clinics provide basic primary care services and are intended to minimize the demand for secondary care. Primary care offered through the Type I clinics is decentralized and provided free of charge. Type III health centers provide a greater range of services and serve as health district offices. District hospitals exist in two districts only (Portsmouth and Marigot), offering limited inpatient services.

The public sector dominates the provision of services in Dominica. The private sector, while growing, largely operates in parallel to the public system. There is no formal quality assurance system in place and no national quality assurance policies.

### 1.3 HIV AND AIDS

Limited data are available to estimate the true HIV prevalence rate in Dominica. The estimated HIV prevalence rate in Dominica is 0.75 percent (Commonwealth of Dominica 2010c). However, Dominica's HIV/AIDS epidemic has, for the most part, remained concentrated in high-risk populations about whom little data are available. The Ministry of Health (MOH) believes that the current estimate of HIV prevalence is conservative and that the rates may be double what is currently reported (SHOPS and Health Systems 20/20 2012). Seventy individuals were known to be living with HIV in Dominica during the period of the NHA, 39 of whom were on antiretroviral drug (ARV) treatment. Dominica differs from other Caribbean countries in that the male-to-female ratio of HIV incidence is 2.5:1 (SHOPS & HS20/20 2012). For many other Caribbean countries, the incidence is typically higher in women.

HIV/AIDS prevention and treatment is well integrated into Dominica's primary health care services. Over 120 health care providers have been trained in testing and counseling. Available services at primary care providers include: health information, education and communication (IEC)/behavior change communication, voluntary counseling and testing (VCT), and ARV treatment. Rapid testing is now available at five sites across the island, reducing the waiting time for results from weeks to under one hour. Treatment is provided at health centers (for outpatient cases) as well as at PMH. ARVs are available free of charge in the public sector. ARVs have been funded by external entities – the MOH budget does not have a line item for ARVs or for the treatment of opportunistic infections. In recent years, ARVs have been funded mainly by the Global Fund.

Dominica has reported full success in prevention of mother-to-child transmission (PMTCT) services and is on its way to eliminating such transmission (Commonwealth of Dominica 2012).

### 1.4 NHA IN DOMINICA

A lack of solid health financing information for evidence-based planning, and growing momentum for health reforms, inspired the request for an NHA estimation by the Government of Dominica. Sustainable health financing is a top priority in Dominica which makes it necessary to have information about health care costs and expenditures in the public and private sectors, and spending on HIV/AIDS in particular. Specifically, key stakeholders in Dominica are interested in using NHA data to better understand spending on overseas tertiary care to help determine the extent of financial protection which the government may need to provide; to identify the burden of out-of-pocket (OOP) expenditures is on households; and to understand spending on insurance as a basis for future discussions on prepayment schemes. In addition, it is important to understand what is

currently being spent on HIV/AIDS patients so that the MOH can plan for future financing of treatment.

The Dominica NHA and HIV Subaccounts estimation for fiscal year 2010-11<sup>2</sup> was conducted under the direction of the MOH in Dominica, with support from the USAID-funded Health Systems 20/20 Caribbean project. It was conducted between July 2012 and October 2013. This NHA estimation is the first conducted in Dominica.

## **I.5 ORGANIZATION OF THIS REPORT**

The remainder of this report includes a summary of methodology, findings, policy implications, and recommendations. Chapter 2 describes the methodology used for this NHA. Chapter 3 presents findings on the general NHA. (Annex A contains NHA tables with more detailed findings on general health expenditures.) Chapter 4 presents results from the HIV Subaccounts. (Annex B contains tables with more detailed findings on HIV expenditures.) Chapter 5 provides concluding remarks and recommendations for next steps.

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<sup>2</sup> The Dominica fiscal year runs from July 1 through June 30.



## 2. METHODOLOGY

### 2.1 CONCEPT AND PURPOSE OF NHA

NHA is a standard, internationally recognized methodology used to track expenditures in a health system. NHA details the flow of funding from financial sources (e.g., donors, Ministry of Finance, and households), to financing agents (i.e., those who manage the funds, such as the MOH, insurance companies, and nongovernmental organizations (NGOs)), to health care providers (e.g., public and private facilities), and finally to the type of care consumed (e.g., inpatient and outpatient care, pharmaceuticals). Actual expenditures, rather than budget allocations, are used to show the flow of incurred spending through the health system. NHA also provides detailed breakdowns of disease-specific expenditures, for example, HIV and AIDS, and malaria. These are referred to as NHA subaccounts.

NHA answers questions such as: Who pays for health care? How much? For what services? NHA is designed to be used as a policy tool to facilitate health sector performance management and the assessment of how well resources are targeted to health system goals and priority areas. NHA data are critical for optimizing the allocation of health resources, identifying and tracking shifts in resource allocations, and assessing equity and efficiency in the health sector. Because the framework is internationally standardized, NHA also facilitates comparisons of spending indicators across countries.

NHA is based on the System of Health Accounts (SHA) framework, which was developed and revised by key international stakeholders over the past two decades. In order to adapt the SHA framework to low- and middle-income country context, the World Health Organization (WHO), World Bank, and USAID published the *Guide to producing national health accounts with special applications for low-income and middle-income countries* in 2003. The application of SHA (2000) according to the *Guide* (2003) in developing countries is referred to as NHA.<sup>3</sup>

The NHA uses the International Classification for Health Accounts (ICHA) of the Organization for Economic Co-operation and Development (OECD), a comprehensive classification system for three dimensions: financing agents, providers, and functions. The ICHA system was designed to be compatible with a number of existing classification schemes and practices, including the System of National Accounts. It allows for cross-national comparisons of health expenditures and is broadly applicable to a wide variety of health system structures.

### 2.2 KEY STAGES FOR ESTIMATING THE NHA

Similar to other NHAs, completing the 2010-11 Dominica NHA and HIV Subaccounts involved four key stages: planning, data collection, data analysis, and report-writing and dissemination.

Following the launch workshop in July 2012, the NHA team, with representation from the Government of Dominica and the Health Systems 20/20 Caribbean Project, began primary and secondary data collection. Collected data were compiled, cleaned, triangulated, and reviewed. The results of the analysis were verified with country stakeholders and finally, disseminated to MOH leadership in November 2013.

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<sup>3</sup> In 2011, OECD, EUROSTAT, and WHO published an updated version the SHA methodology (SHA 2011), which builds off of SHA (2000) while refining some of the conceptual frameworks and classifications and enabling the framework to reflect new trends in health systems. At the point of initiating work in Dominica in July 2012, there were insufficient technical resources to implement the methodology of the SHA 2011 framework. Therefore, the SHA (2000) approach was used.

## 2.2.1 PLANNING

Before commencing the NHA, the team sought the engagement of key stakeholders through a launch workshop held in Roseau in July 2012. Key health sector stakeholders participated in this workshop, which explained the objectives of the NHA exercise as well as the roles of the stakeholders during the NHA estimation. Participants of the launch workshop are listed in Annex C.

The NHA classification codes were customized to the Dominican context, for example, to the types of providers available in Dominica. Contact lists for each of the institutional types were prepared, including government, employer, NGO, insurance, and donor contacts. The NHA institutional survey instruments were finalized, customized to the Dominican context, and structured to match the budgeting and reporting process of the respondents in order to facilitate survey completion.

## 2.2.2 DATA COLLECTION

The data collection stage, which took place between July 2012 and July 2013, involved collecting primary data from the institutions listed below through the NHA institutional surveys. When using institutional surveys, an effort is always made to capture data from those institutions that likely made large health expenditures and that therefore account for a significant percentage of THE. As such, while some response rates may be low, it is important to consider the extent to which the majority of THE has been captured.

- a. Donors. Eight key donors were identified that had donated funds or aid-in-kind to Dominica during fiscal 2010-11. Of these eight, seven responded, generating a response rate of 88 percent.
- b. NGOs. Sixteen organizations were surveyed. The NHA team received ten responses, a response rate of 63 percent.
- c. Insurance companies. Five insurance companies were identified as providing insurance whose primary purpose is health (i.e., coverage of medical expenses as part of car insurance was not considered health insurance). Two responses were received. Since insurance companies in Dominica are branches of multinational organizations, the main challenge was that authority was often needed from head office before divulging financial information, which either led to authority not being given at all or not being given in time for the data analysis.
- d. Employers. Employers in Dominica who may have provided health care to their employees, either via insurance or on-site health care, were identified. A sample of these employers (24) were surveyed and six responded, a response rate of 25 percent.

A survey was also conducted among people living with HIV (PLHIV) to capture health utilization and expenditure data. A sample of 30 people was drawn from 70 PLHIV who were registered with the National HIV/AIDS Response Programme (NHARP). While the government is aware that there are PLHIV who are not registered with the NHARP, they were not included in the PLHIV survey as it was not possible to identify them. Interviews were limited to PLHIV who visited the program during the survey period, which totaled 16 (53 percent response rate). (Annex D reports on findings of the survey.)

Secondary data were also used, either where primary data were not available or in order to triangulate or complement the primary data available. The secondary data comprised the following:

- e. Dominica 2008-09 Country Poverty Assessment (CPA) (Commonwealth of Dominica 2010a), to understand the OOP health payments that households incurred. Overall household health expenditures are typically collected through a national NHA household survey. This was the original plan for the Dominica NHA, and the MOH's research ethics panel approved the draft survey protocol; however, the proposed survey was not approved by the Dominica National Statistics Office and thus could not be implemented. Instead, for

this first NHA exercise, household health expenditure data from the most recent CPA dataset was used as the best proxy data source.

Of a population in Dominica of 71,530 in 2008, the target sample size of the CPA survey was 1,268 households, with an average of three people per household. Responses were received from 877 households throughout Dominica representing 2,673 individuals (69 percent response rate).

In order to arrive at a 2010-11 equivalent for household health expenditure, the 2008-09 CPA data were adjusted for inflation of health care costs, using the medical Consumer Price Index, as well as growth in the demand for health care, using the Dominica population growth.

- f. Government budget execution reports and annual reports obtained from the Ministry of Finance were used to estimate government health expenditure
- g. Health center costing (Routh and Tayag 2012) and hospital costing (Routh 2013) studies conducted in Antigua and Barbuda were used as a proxy to determine expenditure allocation ratios
- h. Hospital utilization data from PMH and Portsmouth District hospital, in combination with costing data outlined in (g), were used to determine expenditure allocation ratios.

### 2.2.3 DATA ANALYSIS AND VALIDATION

The Health Accounts Production Tool (HAPT) was used to collect, validate, and analyze the data. The data were reviewed for completeness and comprehensiveness. Where necessary, double-counting was removed (e.g., where NGOs reported spending on activities financed by a donor and donors reported transferring funds to NGOs to implement the same activities); weights were applied for employers and insurance companies (where a sample of companies were surveyed); and any data gaps were addressed. Each health expenditure item was then mapped to the four standard NHA classifications: source, agent, provider, and function. Allocation ratios were defined to split certain aggregated expenditures. NHA tables were produced to summarize the results of the analysis. The results were sent to the MOH for validation.

### 2.2.4 REPORT WRITING AND DISSEMINATION

The NHA results were presented and discussed with MOH stakeholders in Dominica in November 2013. Finally, the NHA report was drafted and finalized.

## 2.3 DEFINITIONS OF HEALTH AND HEALTH FUNCTIONS

The boundary for health and the breakdown by type of care were adapted from the NHA methodology to the Dominica context. Definitions for the main categories for these functional health classifications used in this report are presented below.

**Health boundary:** The boundary of “health” in the NHA is functional in that it refers to activities whose primary purpose is disease prevention, health promotion, treatment, rehabilitation, and long-term care. This boundary includes services provided directly to individual persons and collective health care services covering traditional tasks of public health. Examples of personal health care services are facility-based care (curative, rehabilitative, and preventive treatments involving day-time or overnight visits to health care facilities); ancillary services to health care such as laboratory tests; and medical goods dispensed to outpatients. Examples of collective health care services include health promotion and disease prevention activities as well as government and insurance health administration that target large populations. National standards of accreditation and licensing delineate the boundary of health within SHA – providers and services that are not licensed or accredited, for example some traditional healers, are not included in the boundary of health. Similarly, services that fall outside of the functional definition of health are not counted.

**Health care-related and non-health activities:** Health care-related items refer to activities related to improving the health status of the population, but whose primary purpose lies elsewhere. Examples of health care-related activities include: capital formation of health care providers (e.g., investment in infrastructure or machinery), education and training of health personnel, research and development in health, food, hygiene and drinking water control, environmental health, administration and clerical tasks. With the exception of capital formation of health care providers, health care-related functions are reported separately and are not included in the estimate of THE in the NHA. General public safety measures such as technical standards monitoring and road safety, are not included, nor is wage replacement programs for the sick and injured.

**Facility-based care:** Facility-based care includes both inpatient and outpatient services. Inpatient services are those for which a patient is admitted overnight into a clinic or hospital for the duration of the treatment. Outpatient services do not require overnight stay and may be delivered at home, in individual or group consulting facilities, dispensaries, or the outpatient clinics at hospitals. Outpatient services include preventive activities that may be conducted as part of curative care visits, for example, immunization during postnatal visits. Secondary preventive activities that involve a patient visit to a facility, such as diabetes management, are also included in outpatient services. Pharmaceuticals prescribed as part of the treatment of inpatient or outpatient care are also included in facility-based care.

**Population-based care:** Population-based care comprises a range of prevention services that target large populations. Examples are epidemiological surveillance, information campaigns, school programs, family planning services, and other measures of health promotion and disease prevention and related general public health activities.

**Pharmaceuticals:** Pharmaceuticals include medicinal preparations, drugs, patent medicines, serums and vaccines, vitamins and minerals, and oral contraceptives that are purchased by households. This category does not include pharmaceuticals consumed as part of the treatment of inpatient or outpatient care.

**Government and insurance administration:** Government and insurance administration includes the planning, management, regulation and collection of funds, and handling of claims of the delivery system. Providers of these services include government policymakers, MOH staff, and insurance management. This category excludes the administration of health care providers, which is accounted for in the cost of the treatment they provide.

## 2.4 ESTIMATION AND APPLICATION OF SPLIT RATIOS

Some reported expenditures on curative care were not possible to separate into inpatient and outpatient spending, and into HIV and non-HIV spending. To address this problem, the NHA team estimated and applied cost allocation ratios to complete the analysis.

To estimate the splits for both the general NHA analysis and the HIV Subaccounts, the team obtained utilization data from the CPA data and the MOH, and unit cost data from health center and hospital costing studies conducted recently in Antigua and Barbuda. Applying these splits involved making certain assumptions.

- Proportion between unit costs of inpatient and outpatient, and HIV and non-HIV services in Antigua and Barbuda are comparable to those in Dominica: Unit costs from costing studies on health center (Routh and Tayag 2012) and hospital (Routh 2013) facilities in Antigua and Barbuda were used as a proxy for unit costs in Dominica because comparable costing data were not available for the latter. This assumption seemed reasonable given that Antigua and Barbuda has a similar health system to Dominica.
- Splits between inpatient and outpatient, and HIV and non-HIV care are the same at public and private facilities: The NHA team assumed that the unit costs are the same for public and private facilities and applied the same splits to both public and private expenditures that were not



disaggregated to the necessary level of detail.

The team used the following formulas to calculate splits.

Inpatient spending vs. outpatient spending split:

$$\text{Inpatient Expenditure} = \frac{(\# \text{ inpatient EOC}) * (\text{cost per inpatient EOC})}{(\# \text{ inpatient EOC}) * (\text{cost per inpatient EOC}) + (\# \text{ outpatient EOC}) * (\text{cost per outpatient EOC})}$$

\*Episodes of care (EOC)

HIV spending vs. non-HIV spending split:

$$\text{HIV Expenditure} = \frac{(\# \text{ HIV EOC stratified by provider}) * (\text{cost per HIV EOC})}{(\# \text{ HIV EOC stratified by provider}) * (\text{cost per HIV EOC}) + (\# \text{ general population EOC}) * (\text{cost per general population EOC})}$$

The NHA team estimated eight splits, which were applied in situations when expenditures could not be disaggregated.

1. District hospital vs. health centers: This split was used to break down government expenditure by type of provider in the Portsmouth and Marigot districts, the two districts with district hospitals.
2. PMH vs. district hospital: Household expenditure data from the CPA were aggregated for PMH and district hospitals. This split rule was used to enable the NHA team to separate OOP expenditure between the national referral hospital and the district hospitals.
3. Inpatient vs. outpatient splits at PMH / Inpatient vs. outpatient splits at district hospitals: This split was used to disaggregate inpatient from outpatient spending when the total amount of money going to hospitals was known, but how it was spent was unknown.
4. HIV vs. non-HIV splits for outpatient clinic care: This split was applied to data on spending for outpatient care at public health centers, which was not disaggregated between spending on HIV and non-HIV prevention and treatment. The NHA team assumed that all care received at clinics was outpatient care and that health centers provide both HIV and general outpatient care, as indicated in the Health Systems Assessment.
5. HIV vs. non-HIV splits for inpatient care at PMH: After estimating the amount of inpatient spending at PMH (using split #3 above), the NHA team further split the expenditure to estimate the proportion of hospital inpatient spending related to HIV versus non-HIV spending. This split was applied to PMH only, as the NHA team was informed that HIV inpatient cases at the district hospitals were always referred to PMH.
6. HIV vs. non-HIV splits for outpatient care at PMH/ HIV vs. non-HIV splits for outpatient care at district hospitals: After estimating the amount of inpatient spending at hospitals (using split #3 above), the NHA team further split the expenditure to estimate the proportion of hospital outpatient spending related to HIV versus non-HIV spending.

## 2.5 LIMITATIONS

**Estimation of household OOP expenditures:** The NHA team was unable to collect primary data for household OOP expenditure on health. Therefore, secondary data from the 2008-09 CPA,

provided by the Central Statistics Office of Dominica, was used to estimate household OOP health expenditures. The CPA household survey conducted in 2008-09 was nationally representative. However, the recall period for inpatient visits in the CPA (four weeks) was significantly shorter than the recall period typically required for an NHA survey (six months), thereby reducing the likelihood of capturing household expenditure for inpatient care in the CPA data.

Due to the design of the CPA survey instrument, certain interpretations (listed below) had to be made to enable the NHA team to calculate OOP health expenditure for inpatient and outpatient care.

- **Type of provider where households sought care.** The CPA data instrument asked households about the type of provider where they first sought care in the preceding four weeks and the THE in the same period. For households who had multiple visits, it was assumed that all visits occurred at the same type of provider as their first visit. This enabled the NHA team to classify the total OOP expenditure by type of provider. However, since the question regarding the “first visit” is essentially a random visit during the four week period (and not necessarily the household’s first visit for their episode of illness), this characteristic is observed in all household surveys which ask for the type of provider during a certain recall period.
- **Consistency of type of service paid for and type of provider visited.** Where households reported OOP expenditure for inpatient care but at providers who do not provide inpatient services (for example, pharmacies or health centers), it was assumed that the respondent correctly responded to the question regarding expenditure for inpatient care but incorrectly to the question about the type of provider. For cases of inpatient expenditure at a public health center, it was assumed that the household’s expenditure for inpatient care took place at a public hospital. For cases of inpatient expenditure at a private clinic, it was assumed that the household’s expenditure for inpatient care took place at a private hospital.

**Capturing OOP expenditure for PLHIV:** The population for the PLHIV survey was limited to those registered with the NHARP. These PLHIV typically only use public facilities to access care. As such, OOP expenditure by PLHIV who are not registered with the NHARP, and those who used private or overseas providers, was not captured in the survey. (The expenditure of the latter, in theory, could be captured in the CPA data but given the design of the CPA survey instrument, it would not be possible to isolate these expenditures for HIV/AIDS analysis).

**Prevention:** The NHA framework disaggregates the classification of health care functions between curative and prevention spending. Prevention spending in the framework *only* refers to population-based programs such as information campaigns. Other types of prevention activities that require outpatient visitation, such as immunizations, are not included as prevention but rather rolled into curative treatment. Thus, total spending on prevention using the framework underestimates the actual resources the country allocates to prevention.

**Health care-related and HIV non-health expenditure:** The NHA team made an attempt to collect and compile spending data on non-health HIV spending, such as funding to support anti-stigma campaigns or care for orphans and vulnerable children. This information, while tangential to the NHA analysis can be useful for the National AIDS Spending Assessment by the Joint U.N. Commission on HIV/AIDS (UNAIDS). The team also made an attempt to collect and compile health care-related spending, such as that for formal education, food, hygiene, and drinking water control, and environmental health. However, response rates to questions about these expenditure items from providers of health care-related and non-health HIV spending was low and the results are likely underestimates.

## 3. RESULTS – GENERAL NHA

### 3.1 SUMMARY OF GENERAL NHA FINDINGS

Table I presents summary findings of the general NHA estimation. It highlights findings about main financing sources, financing agents, health care providers, and health care functions only.

**TABLE I: KEY INDICATORS FROM GENERAL NHA FINDINGS**

| Indicator   | 2010-11 (EC\$)                        |
|---|---------------------------------------|
| Total population  | 72,729*                               |
| Exchange rate   | 2.7 (EC\$/US\$)                       |
| GDP (2011)  | EC\$1,283 million (US\$480 million)** |
| GDP per capita  | EC\$17,639 (US\$6,597)                |
| Total health expenditure (THE)  | EC\$78,393,734 (US\$29,319,257)       |
| THE per capita  | EC\$1,078 (US\$403)                   |
| THE/GDP   | 6%                                    |
| Total government health expenditure   | EC\$48,956,664 (US\$18,309,792)       |
| Total general government expenditure  | EC\$316,841,808 (US\$118,498,836) *** |
| Government health spending as a percentage of THE   | 62%                                   |
| Government health spending as a percentage of total general government expenditure                        | 15%                                   |
| Government health expenditure per capita  | EC\$673 (US\$252)                     |
| <b>Who funds health? Key Financing Sources excluding households: absolute (% THE)</b>                     |                                       |
| Government of Dominica  | EC\$48,956,664 (62.4%)                |
| Donors  | EC\$2,239,608 (2.9%)                  |
| <b>How much do households spend? Household spending: absolute (% THE)</b>                                 |                                       |
| Total household spending (including prepayments to insurance companies and Social Security contributions) | EC\$26,676,028 (34.0%)                |
| Household OOP spending (direct payments to providers only)  | EC\$26,549,252 (33.8%)                |
| Household OOP spending per capita   | EC\$367 (US\$137)                     |
| <b>Who manages health resources? Key Financing Agents: absolute (% THE)</b>                               |                                       |
| Dominica MOH  | EC\$49,449,039 (63.1%)                |
| Household OOP   | EC\$26,549,252 (33.9%)                |
| NGOs  | EC\$1,578,971 (2.0%)                  |
| Private insurance companies   | EC\$683,150 (0.9%)                    |
| <b>Where are health funds spent? Key Health Care Providers: absolute (% THE)</b>                          |                                       |
| Dominica government-owned hospitals and health centers  | EC\$51,278,943 (65.4%)                |
| Private providers in Dominica   | EC\$17,956,491 (22.9%)                |
| Off-island facilities   | EC\$928,437 (1.2%)                    |
| <b>What types of health care are consumed? Key Health Functions: absolute (% THE)</b>                     |                                       |
| Facility-based inpatient and outpatient care  | EC\$63,795,102 (81.4%)                |
| Population-based prevention activities  | EC\$2,795,362 (3.6%)                  |
| Capital investment  | EC\$6,217,899 (7.9%)                  |
| Government health sector administration   | EC\$4,929,350 (6.3%)                  |

| Indicator                        | 2010-11 (EC\$)     |
|----------------------------------|--------------------|
| Over-the-counter pharmaceuticals | EC\$656,021 (0.8%) |

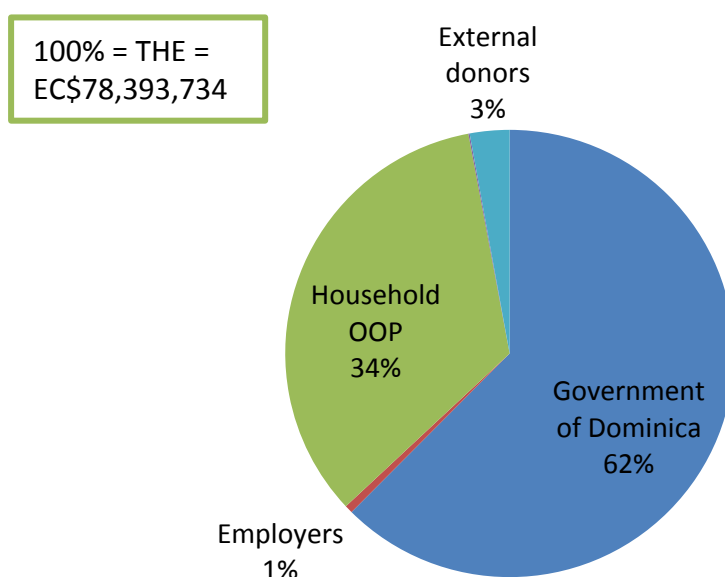
Sources: \*CARICOM (2013); \*\*Eastern Caribbean Central Bank (2013); \*\*\* Eastern Caribbean Central Bank (2013)

Note: Percentages may not add up to 100 percent because the table presents only key indicators, and the lists are not exhaustive of all expenditure classifications at each level of analysis.

### 3.2 FINANCING SOURCES: WHO PAYS FOR HEALTH CARE?

Financing sources include all entities and institutions that contribute funds to the health care system. The health sector in Dominica obtains funding from government agencies, households, employers, and external (foreign) donors (Figure 1). Note, the use of the term “donor” in this report always refers to external donors. THE may be slightly underestimated due to the non-response of several institutions and data which were received after the completion of data analysis. Inclusion of the belatedly received data, however, would not significantly affect THE as the expenditure amounted to approximately EC\$229,194, or 0.29 percent of THE.

**FIGURE 1: BREAKDOWN OF THE BY FINANCING SOURCE**



As Figure 1 shows, in 2010-11 the two primary financing sources for the health sector in Dominica were the government and households. Public funds accounted for 62 percent of THE. This represents a significant commitment of the government to finance the health sector, demonstrated also by 15 percent of the national budget spent on the health sector in 2010-11. The contribution of the public sector may be slightly underestimated as it includes government funds allocated to the MOH only. Health expenditure data from other ministries, for example, the Ministry of Social Services, Community Development and Gender Affairs, are not included since the data were received after the data analysis. However, expenditure by the Welfare Division of the Ministry of Social Services, Community Development and Gender Affairs on medical expenses for eligible persons was small, amounting to approximately EC\$4,650 for the period analyzed<sup>4</sup>.

<sup>4</sup> This amount is included in the data that was received after data analysis and that totalled EC\$229,194, as mentioned above

OOP expenditure by households financed over one-third of health expenditure in Dominica in 2010-11 (EC\$26 million, or 34.0 percent of THE). In comparison with health funding from households and government sources, health funding from employers, private donations, and donors was minimal. Employer contributions represent payment of health insurance on behalf of employees.

### 3.3 FINANCING AGENTS: WHO MANAGES HEALTH FUNDS?

Financing agents are the institutions and entities that receive funds from financing sources and use those funds to pay for health goods and services at health care facilities. Financing agents manage funds and determine how resources are allocated across providers. Examples of financing agents are MOHs, public and private insurance companies, NGOs, and private firms that operate their own health care facilities or manage workplace programs. For OOP spending, households are considered the source and the financing agent.

#### 3.3.1 WHICH ENTITIES POOL, MANAGE, AND ALLOCATE HEALTH FUNDING?

In Dominica, the government is the principal agent of health sector expenditure: in 2010-11 it managed EC\$49 million (63 percent of THE) (Figure 2). This is slightly more than its contribution as a source of funds because donors also transferred funds through the government. Most of the government's role as financing agent is carried out by the MOH; only 0.02 percent of THE is managed by the Dominica Social Security.<sup>5</sup>

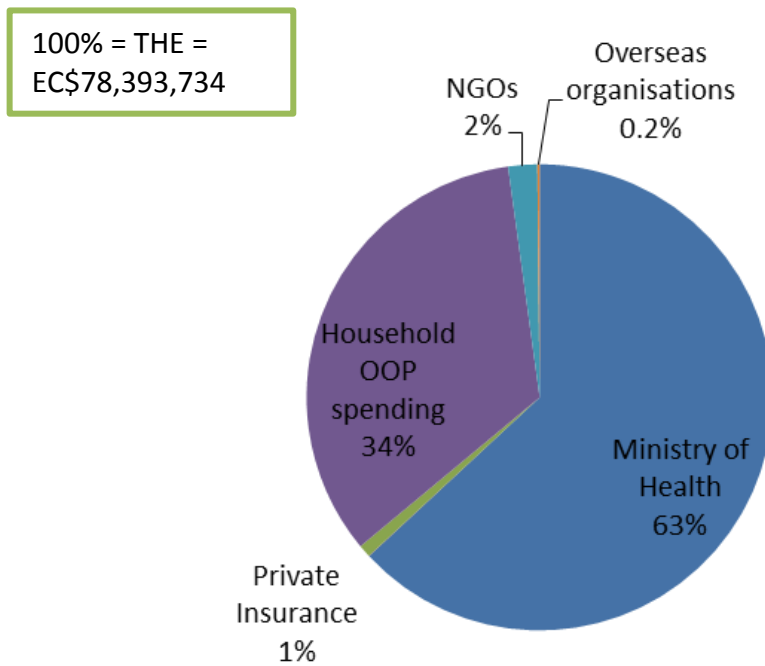
In the NHA methodology, households are agents of their own spending. In Dominica in 2010-11, households managed the second largest amount of health funds, EC\$27 million (34 percent of THE). Therefore, over one-third of health expenditure had no risk pooling element. This empirical estimate is larger than the imputed estimate from the WHO database, which in the absence of empirical data projected that 24 percent of THE in Dominica was attributable to household OOP spending in 2011 (WHO 2013). This estimate is also considerably larger than the 15-20 percent benchmark established by WHO for high-income countries in the 2010 *World Health Report* (WHO 2010).

NGOs pooled and managed 2 percent of THE (EC\$1.6 million) and private insurance 1 percent (EC\$0.68 million). Overseas organizations, representing donor agencies that administered their own funds (instead of transferring them to NGOs or the government) accounted for very little of spending by agents (0.2 percent of THE).

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<sup>5</sup> Again, health expenditure data from other ministries, for example the Ministry of Social Services, Community Development and Gender Affairs, is not included due to delay in receipt of the data.

**FIGURE 2. BREAKDOWN OF THE BY FINANCING AGENT**



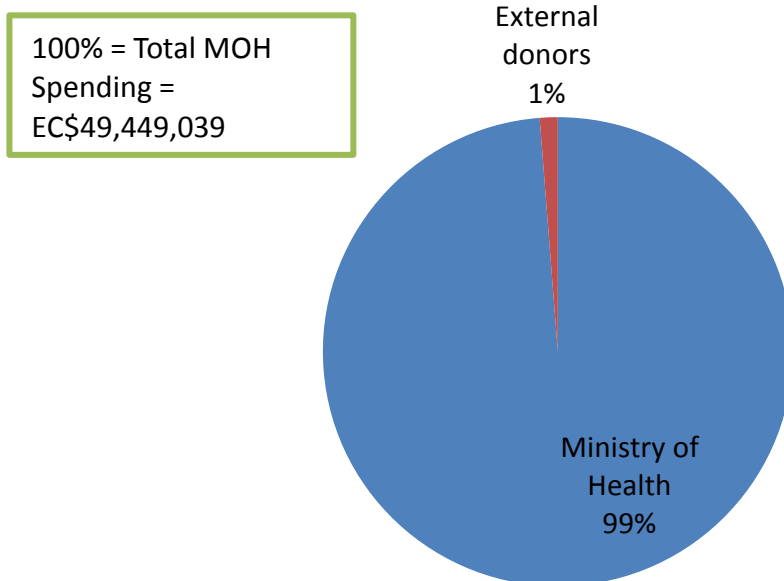
**What are the sources of funding for entities that manage health funds?**

In addition to allowing a breakdown of THE by financing agent, NHA data also show the flow of health resources from financing source to financing agent. Thus, the breakdown by financing source of the MOH's spending (described below) reveals where the ministry ultimately received its funding from. Similarly, a breakdown of private insurance shows the ultimate sources of the health funds.

**Sources of funding for the MOH**

Figure 3 shows a breakdown of the MOH spending according to its sources of financing. Of the total EC\$49 million that the MOH managed on health in 2010-11, 99 percent came from the MOH's budget and 1 percent (EC\$610,203) came from donors.

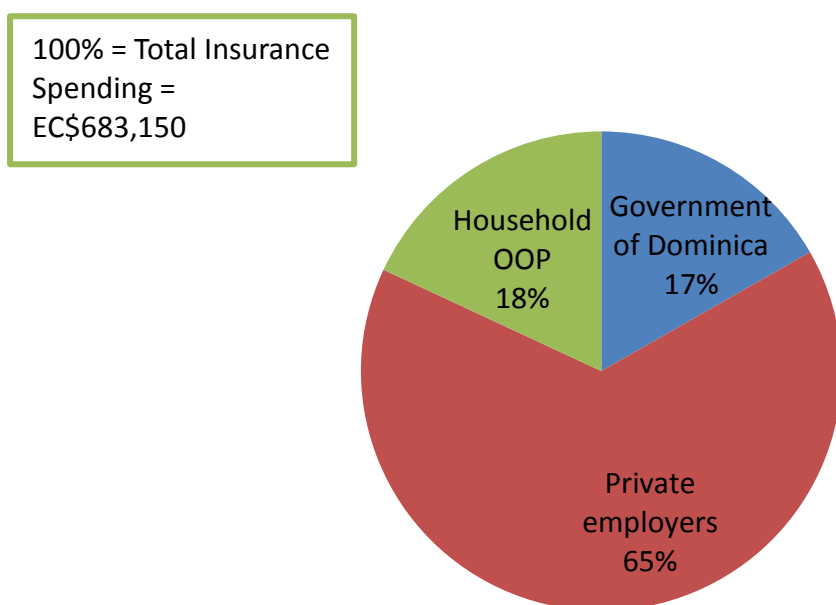
**FIGURE 3. BREAKDOWN OF MOH BY FINANCING SOURCE**



### Sources of funding for private insurance

Public and private employers (on behalf of their employees) contribute to private health insurance. Residents of Dominica also contribute to private insurance through the purchase of insurance coverage independent of their employers. Figure 4 shows that total contributions to private insurance in 2010-11 were minimal: EC\$0.68 million, or 0.9 percent of THE. Private employers were the greatest purchaser of private health insurance, accounting for 65 percent of insurance funds. The government, as a public employer, accounted for 17 percent of total private insurance funds<sup>6</sup> and households for 18 percent.

**FIGURE 4. BREAKDOWN OF PRIVATE INSURANCE BY FINANCING SOURCE**



## 3.4 HEALTH CARE PROVIDERS: WHICH PROVIDERS RECEIVE HEALTH FUNDS TO DELIVER CARE?

Health care providers receive money in exchange for providing health care goods and services. Examples of health care providers are public and private hospitals and outpatient facilities, pharmacies, as well as institutions and facilities that provide population-based disease prevention and health promotion services. Because health administration and policymaking are also considered part of the health sector, the NHA framework treats government health and other ministries that provide administration, regulation, and policy as health care providers.

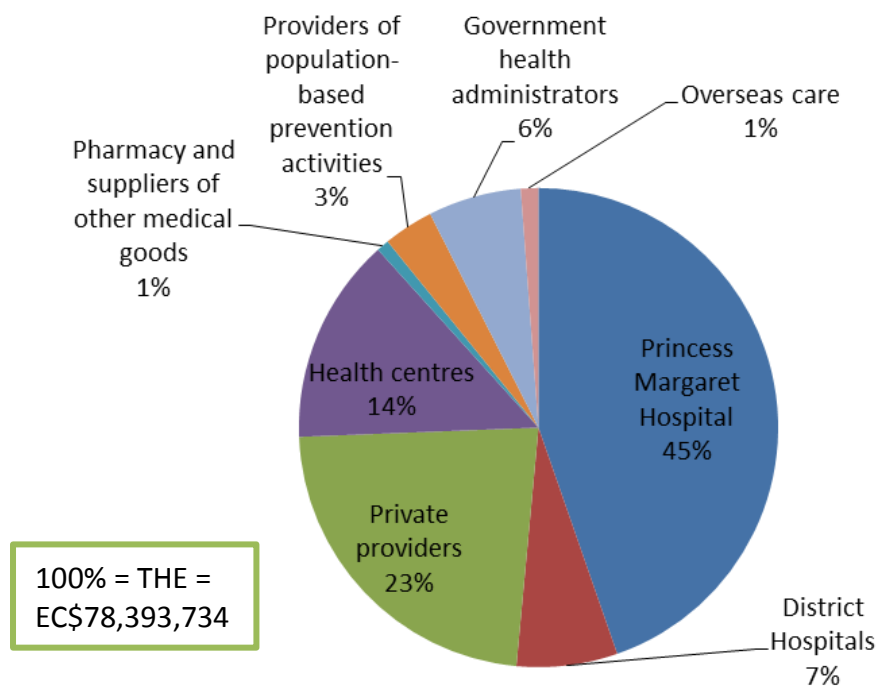
### 3.4.1 WHERE DO HEALTH FUNDS GET SPENT?

Figure 5 shows the breakdown of health spending on different types of provider. The vast majority (66 percent of THE) went to government-owned facilities: EC\$35 million (45 percent of THE) at PMH, EC\$5.3 million (7 percent of THE) in the two district hospitals at Portsmouth and Marigot,

<sup>6</sup> The government purchased health insurance for the Fire and Ambulance Services department and the Customs & Excise department

and EC\$10.9 million (14 percent of THE) in public health centers. Private providers, including private hospitals and private outpatient clinics, received the next largest share of THE, 23 percent. Also notable are the low levels of spending at retail pharmacies (1 percent of THE), perhaps due to free provision of drugs at public facilities, and at health providers based overseas (1 percent of THE). Spending at health providers overseas is small, amounting to one percent of THE. Additional data for overseas care were received after data analysis. While this is not included in the data below, the data amounted to approximately EC\$224,544 i.e., 0.29 percent of THE.

**FIGURE 5. BREAKDOWN OF THE BY PROVIDER**



### 3.4.2 WHERE DO MANAGERS OF HEALTH FUNDS ALLOCATE THEIR RESOURCES?

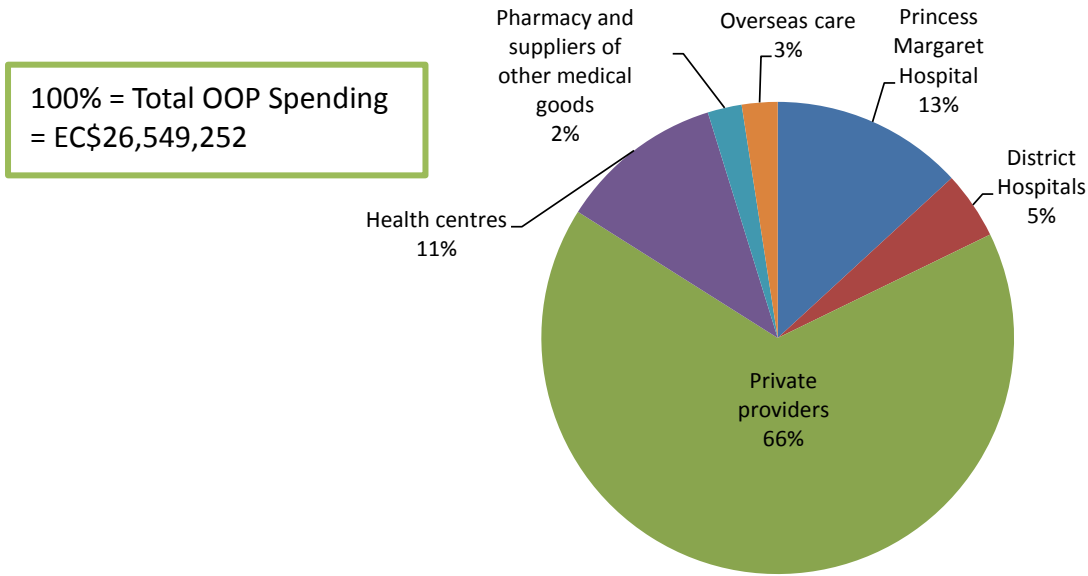
In addition to showing the flow of funds from sources to providers throughout the health system, NHA data can show how individual financing agents allocate funds to different providers.

#### **Where are households' OOP funds spent?**

Of the EC\$27 million of direct household OOP payments to providers, the majority (66 percent) was spent at private providers in Dominica (Figure 6). A smaller proportion, 29 percent, was spent in public facilities, of which 13 percent was spent at PMH, 11 percent at health centers, and 5 percent at district hospitals. While primary health care is free in Dominica, patients treated at health centers sometimes have to pay when complex laboratory tests have to be sent to PMH or private laboratories for analysis. Three percent of household OOP expenditure was made overseas and 2 percent was made in pharmacies and other retail outlets in Dominica.



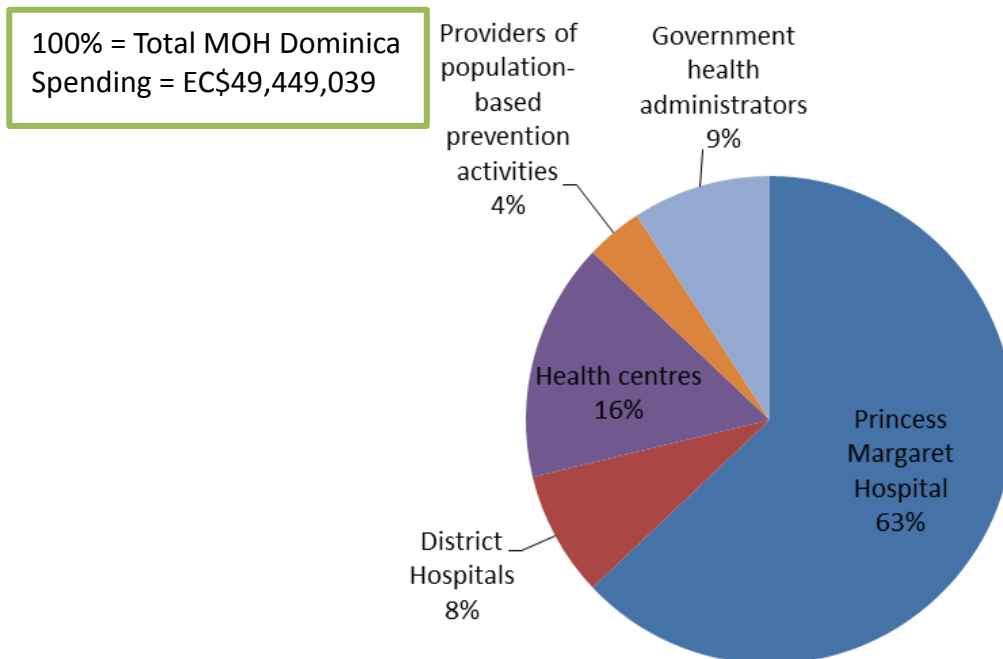
**FIGURE 6. BREAKDOWN OF HOUSEHOLD OOP SPENDING BY PROVIDER**



**Where are MOH funds spent?**

Figure 7 shows the breakdown of the EC\$49 million managed by the Dominica MOH. The largest allocation went to PMH: EC\$31 million (63 percent). The second largest allocation, EC\$7.8 million (16 percent), was spent at health centers. The ministry allocated 9 percent of its health spending to itself for the administration of the health sector. Four percent was spent on the provision of population-based prevention activities. Of note is the negligible level of government spending at providers overseas, given that tertiary care and diagnostic services are only available off-island.

**FIGURE 7. BREAKDOWN OF MOH SPENDING BY PROVIDER**



### **3.5 HEALTH CARE FUNCTIONS: WHAT TYPES OF GOODS AND SERVICES ARE PURCHASED WITH HEALTH FUNDS?**

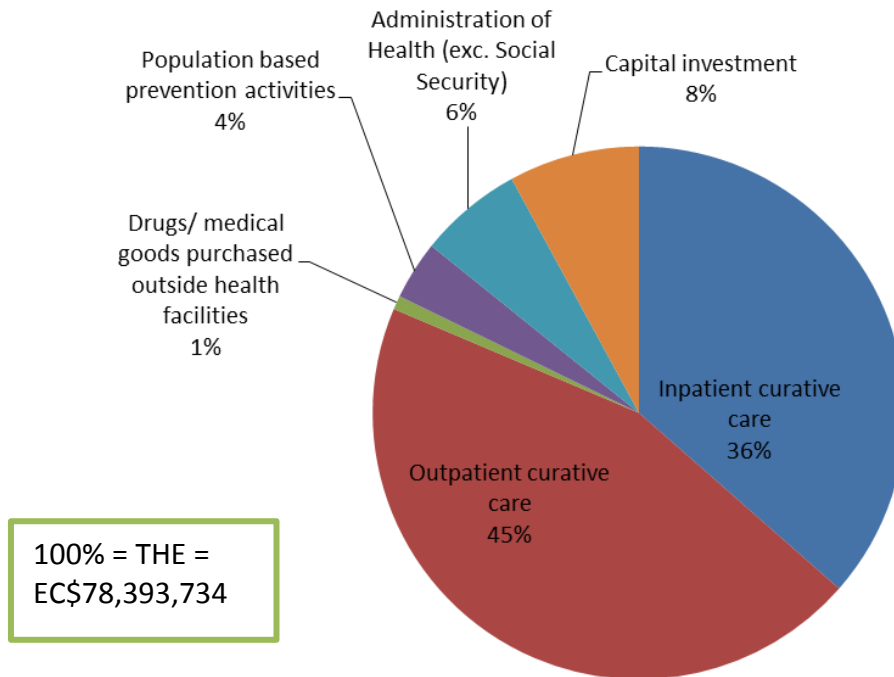
Health care functions refer to goods and services that residents of Dominica consume for the purpose of improving, maintaining, or preventing the deterioration of individual or population health status and to mitigate the consequences of ill health. An example of a health care function is curative care – which can be further broken down into “inpatient care,” treatment that requires at least one overnight stay at a health care facility, and “outpatient care,” a short visit for a consultation or test. Another example is disease prevention and health promotion services – both population-based services and those targeting specific groups or requiring appointments at health care facilities. In this analysis, only population-based services are classified specifically as prevention. Prevention-type activities conducted at the health facility during a curative care visit is considered part of the curative care function for the purposes of this analysis. Government administration of the health sector and capital investment of health facilities are other types of health care functions in the NHA framework.

#### **3.5.1 OVERALL, ON WHAT TYPES OF GOODS AND SERVICES ARE HEALTH FUNDS SPENT?**

Figure 8 shows the breakdown of THE by function. The largest category of spending in Dominica in 2010-11 was curative care, with EC\$28.6 million (36 percent of THE) spent on inpatient curative care and EC\$35.2 million (45 percent) spent on outpatient curative care. EC\$6.3 million (8 percent of THE) was spent on capital investment. Capital investment comprises expenditures made by health care providers in one year that generate economic benefits lasting beyond that year, such as major construction or rehabilitation of a health facility building. Spending on administration of the health sector accounted for 6 percent of THE and spending on population-based prevention activities accounted 4 percent of THE. Population-based prevention campaigns covers health campaigns aimed at the general population and does not include facility-based prevention activities such as immunization. As such, overall expenditure on prevention activities is likely greater than expenditure on population-based prevention activities only.

Dominica’s 2010-2019 Strategic Plan for Health (Commonwealth of Dominica 2010b) laments the burden of CNCDs on the morbidity and mortality of the population, and highlights the strategy for prevention services to address the burden. However, from the NHA analysis, less than 0.1 percent of total spending on population-based prevention programs was targeted toward CNCDs.

**FIGURE 8. BREAKDOWN OF THE BY FUNCTION**



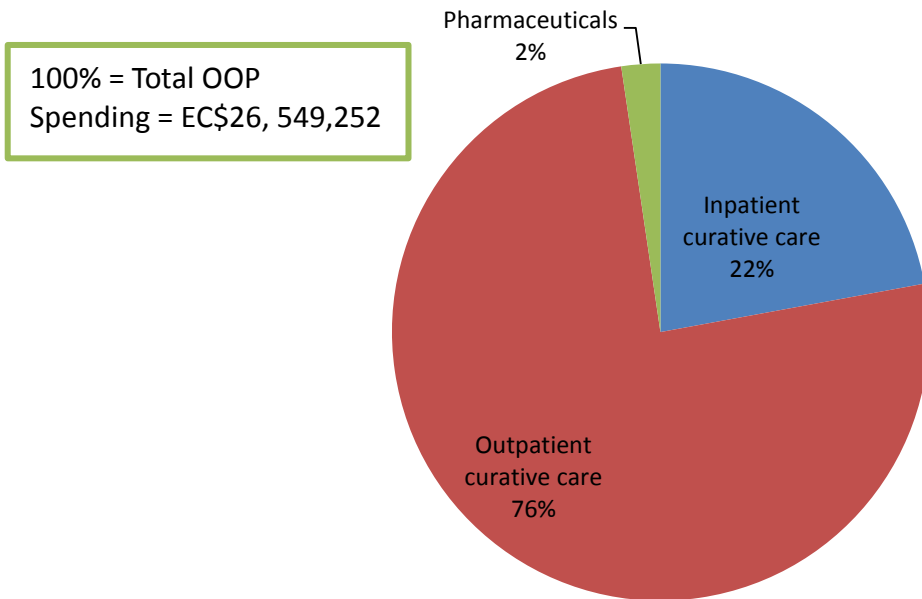
### 3.5.2 ON WHAT TYPES OF GOODS AND SERVICES DO FINANCING AGENTS SPEND THEIR RESOURCES?

In addition to the breakdown of THE by type of goods and services, NHA data can also be used to disaggregate spending by specific financing agents to reveal information about what health goods and services these financing agents purchase. The following section presents the breakdown of spending by households and government agencies, by health care function.

#### **ON WHAT TYPES OF GOODS AND SERVICES ARE HOUSEHOLDS OOP FUNDS SPENT?**

As Figure 9 shows, curative care accounts for 98 percent of all household OOP spending on health. Households spent EC\$5.9 million (22 percent of total OOP spending) on inpatient care and EC\$20.1 million (76 percent of total OOP spending) on outpatient care. Households spent the remainder on pharmaceuticals.

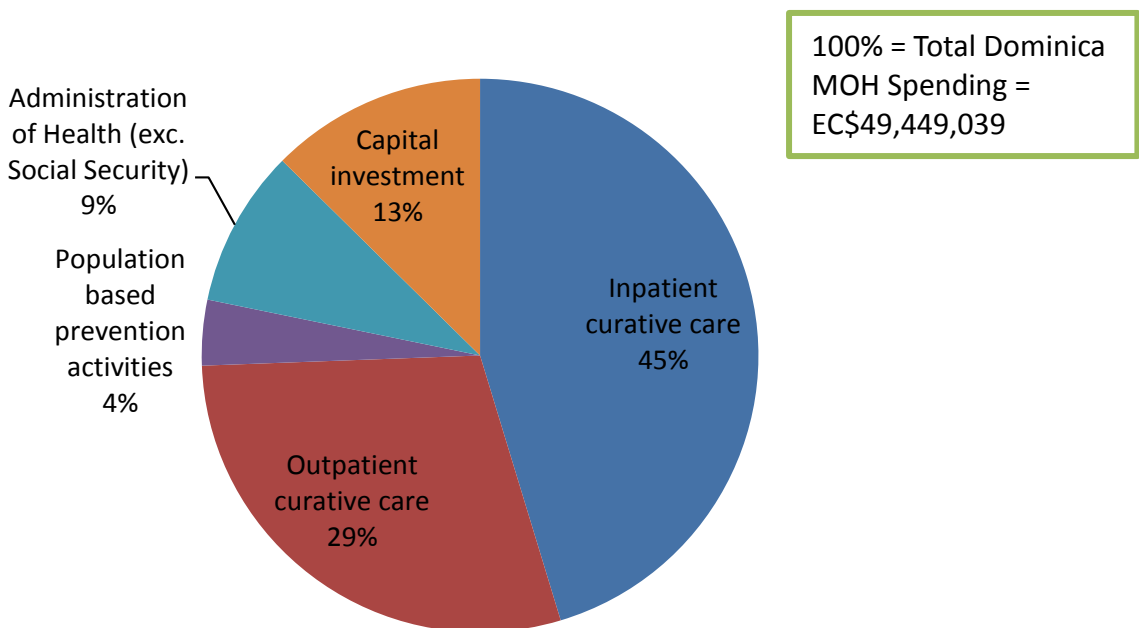
**FIGURE 9. BREAKDOWN OF HOUSEHOLD OOP SPENDING BY FUNCTION**



**What types of goods and services does the MOH spend its funds on?**

The MOH spent the largest portion of its funds on inpatient care – EC\$22.4 million, 45 percent. Outpatient care spending represented the second largest portion of funds, EC\$14.4 million, or 29 percent of its total spending. The MOH also made some capital investments in its facilities, amounting to 13 percent of its total expenditure. Nine percent of its spending was for administration and 4 percent for population-based prevention activities.

**FIGURE 10. BREAKDOWN OF DOMINICA MOH SPENDING BY FUNCTION**



## 4. RESULTS – HIV SUBACCOUNTS

### 4.1 SUMMARY OF NHA HIV SUBACCOUNTS FINDINGS

Table 2 presents selected findings of the HIV Subaccounts estimation, highlighting findings about main financing sources, financing agents, health care providers, and health care functions.

**TABLE 2: KEY INDICATORS FROM HIV SUBACCOUNTS**

| Indicator   | 2010-11                     |
|---|-----------------------------|
| Prevalence rate (adults)  | 0.75%*                      |
| Number of PLHIV   | 70**                        |
| Total HIV health expenditure  | EC\$1,922,429 (US\$718,988) |
| HIV spending as a percentage of general THE   | 2.0%                        |
| <b>Who funds the HIV response? Key Financing Sources: absolute (% THE-HIV)</b>      |                             |
| Dominica government   | EC\$1,079,385 (56.1%)       |
| External donors   | EC\$843,044 (43.9%)         |
| <b>Who manages HIV resources? Key Financing Agents: absolute (% THE-HIV)</b>        |                             |
| Dominica MOH  | EC\$1,376,554 (71.6%)       |
| NGOs  | EC\$425,555 (22.1%)         |
| External organizations  | EC\$120,321 (6.3%)          |
| <b>Where are HIV funds spent? Key Health care Providers: absolute (% THE-HIV)</b>   |                             |
| Providers of population-based prevention activities                                 | EC\$1,126,503 (58.6%)       |
| Dominica government-owned hospitals   | EC\$363,992 (18.9%)         |
| Dominica government-owned health centers  | EC\$401,700 (20.9%)         |
| <b>What are HIV funds spent on? Key Health care Functions: absolute (% THE-HIV)</b> |                             |
| Population-based prevention activities  | EC\$1,277,372 (66.4%)       |
| Facility-based care   | EC\$614,823 (32.0%)         |
| Condom sales  | EC\$30,233 (1.6%)           |

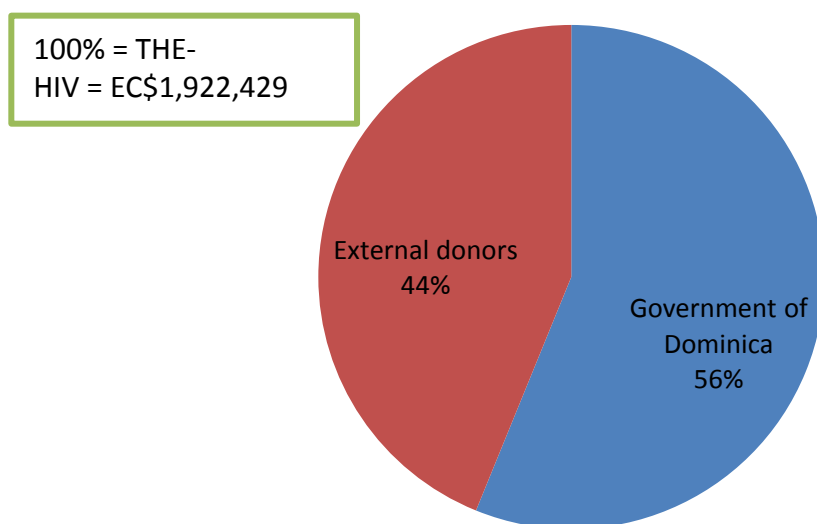
Sources: \*Commonwealth of Dominica (2010) \*\*NHARP.

Note: This table is intended to highlight main sources, agents, providers and functions only. Thus, it only presents key indicators, and the lists are not exhaustive of all expenditure classifications at each level of analysis. Hence, percentages do not add up to 100 percent.

## 4.2 FINANCING SOURCES: WHO PAYS FOR HIV CARE?

In 2010-11, the Government of Dominica was the primary source of HIV funds, spending EC\$1,079,385 (56 percent of THE-HIV) on HIV programs, goods, and services for residents of the country (Figure 11). Donors played a secondary, though still significant, role in the Dominican HIV response, contributing EC\$843,044 (44 percent of THE-HIV).

**FIGURE 11. BREAKDOWN OF THE-HIV BY FINANCING SOURCE**



The PLHIV survey finds that PLHIV accessing public facilities did not contribute to THE-HIV through OOP expenditure, since all HIV/AIDS treatment and care in government-owned facilities is provided free of charge. However, the PLHIV survey used the NHARP to identify PLHIV; only those registered with the NHARP (who, from the sample, used public facilities only) were interviewed. Therefore, PLHIV who were not registered with the NHARP, and who would typically use private facilities and facilities overseas, were not captured. As such, the NHA may have underestimated PLHIV OOP spending on HIV services.

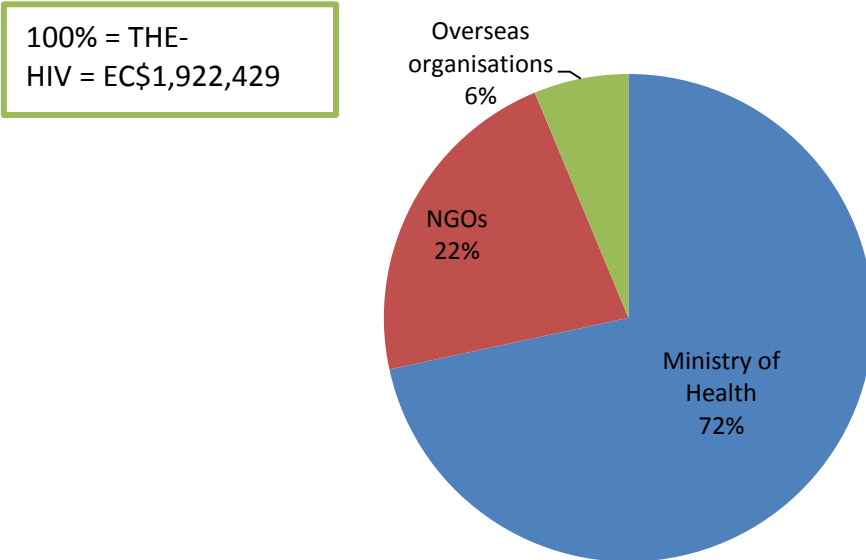
## 4.3 FINANCING AGENTS: WHO MANAGES HIV FUNDS?

### 4.3.1 WHICH ENTITIES POOL, MANAGE, AND ALLOCATE HIV FUNDING?

The breakdown of THE-HIV by financing agent reveals that the Government of Dominica managed the largest share of HIV funding: EC\$1.4 million or 72 percent of THE-HIV expenditures (Figure 12). In this analysis, the MOH represents the NHARP, the entity set up in 2003 and given responsibility for the government's fight against HIV/AIDS in Dominica. NGOs also played a prominent role in the HIV response, managing EC\$425,555, or just under one-fifth of all HIV spending in Dominica. Overseas organizations, including donor organizations, managed 6 percent of THE-HIV.

As noted above, OOP spending by PLHIV in public facilities was zero: PLHIV seeking care at government-owned facilities therefore seem to be completely financially protected for their treatment and care. This reflects the government's continued commitment to provide care and treatment to PLHIV free of charge.

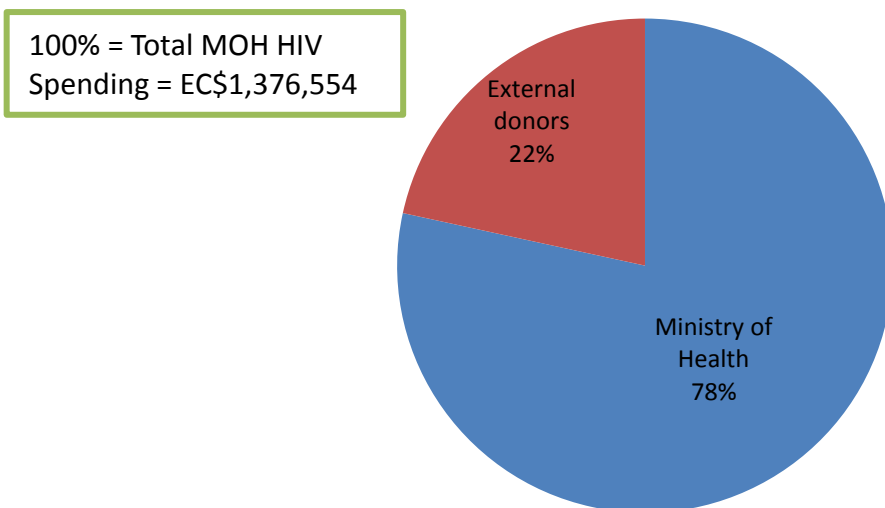
**FIGURE 12. BREAKDOWN OF THE-HIV BY FINANCING AGENT**



### 4.3.2 WHAT ARE THE SOURCES OF FUNDING FOR ENTITIES THAT MANAGE HEALTH RESOURCES?

The breakdown of financing agents by source of financing reveals that the MOH, as the agent of HIV health resources, receives those resources from a small number of sources. In 2010-11, the MOH received funding from two sources, its own budget and donors (Figure 13). The MOH provided most of the monies (EC\$1.1 million, or 78 percent), while donors funded 22 percent. The donor contribution to the MOH (NHARP) includes in-kind donations of ARVs and testing kits provided through the Pan-Caribbean Partnership against HIV & AIDS.

**FIGURE 13. BREAKDOWN OF DOMINICA MOH BY FINANCING SOURCE**



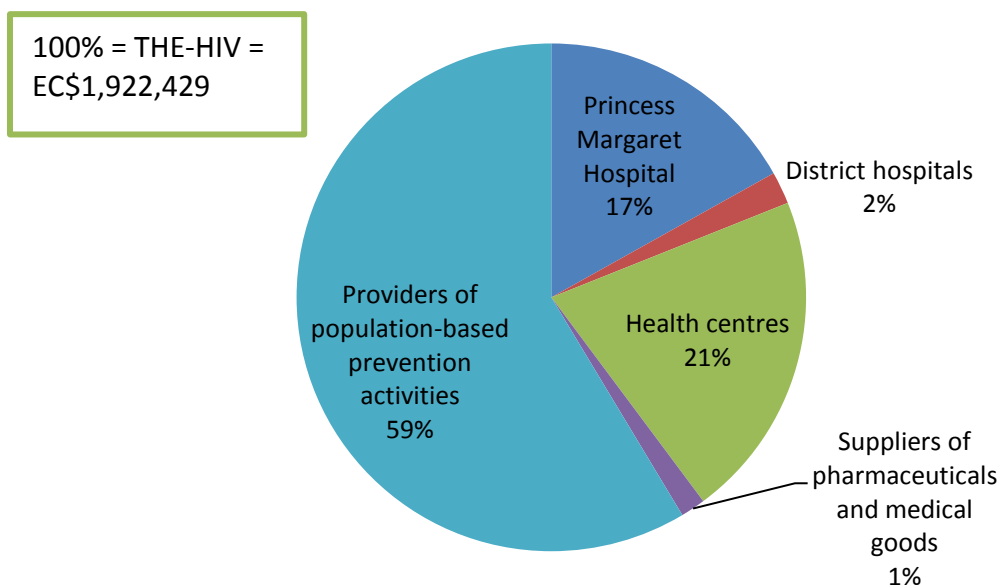
All funds administered by NGOs were from a single source: donors.

## 4.4 HEALTH CARE PROVIDERS: WHO RECEIVES HIV FUNDS TO DELIVER CARE?

### 4.4.1 WHERE DO HIV FUNDS GET SPENT, OVERALL?

As shown in Figure 14, which breaks down THE-HIV by provider, providers of population-based prevention activities accounted for the largest portion of HIV expenditures in Dominica: EC\$1.1 million (59 percent of THE-HIV). Total spending on HIV services in hospitals and health centers was EC\$0.77 million (40 percent of THE-HIV). A small proportion of HIV/AIDS spending (1 percent of THE-HIV) took place at pharmacies and retail outlets.

**FIGURE 14. BREAKDOWN OF THE-HIV BY PROVIDER**



### 4.4.2 WHERE DO GOVERNMENT AND NGOS SPEND THEIR HIV RESOURCES?

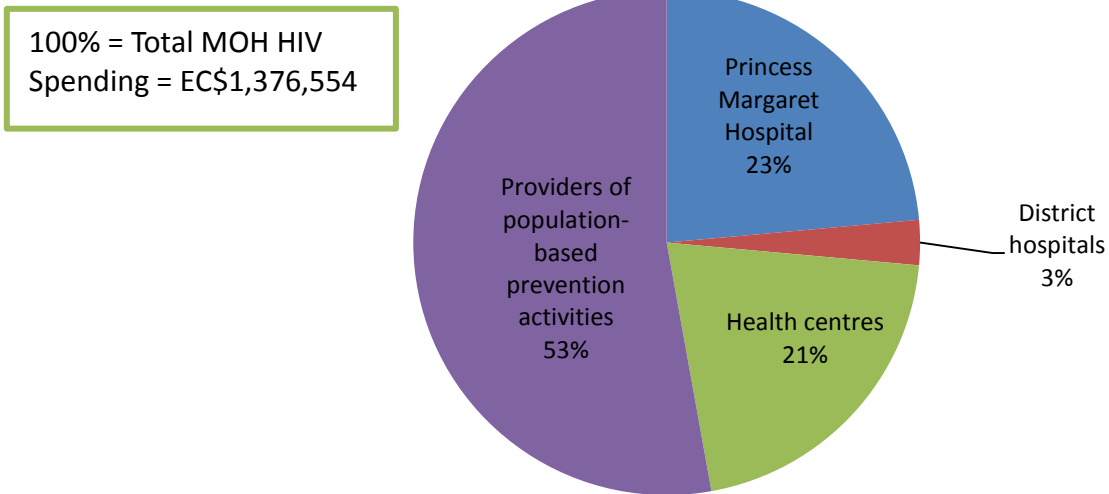
As discussed in section 4.3, the MOH and NGOS managed over 90 percent of THE-HIV in Dominica in 2010-11.

#### **Where does government spend its HIV resources?**

The MOH spent most of its HIV funds at two types of providers: PMH (23 percent of total spending by the MOH) and providers of population-based prevention activities (53 percent of total HIV spending by the ministry) (Figure 15). Providers of population-based prevention services that received funding from the MOH represent predominantly the NHARP. Government-owned health centers received 21 percent of the HIV resources spent by the MOH. District hospitals received only 3 percent of MOH HIV expenditure; the funds covered HIV outpatient care only, since patients needing HIV inpatient services are typically referred to PMH.



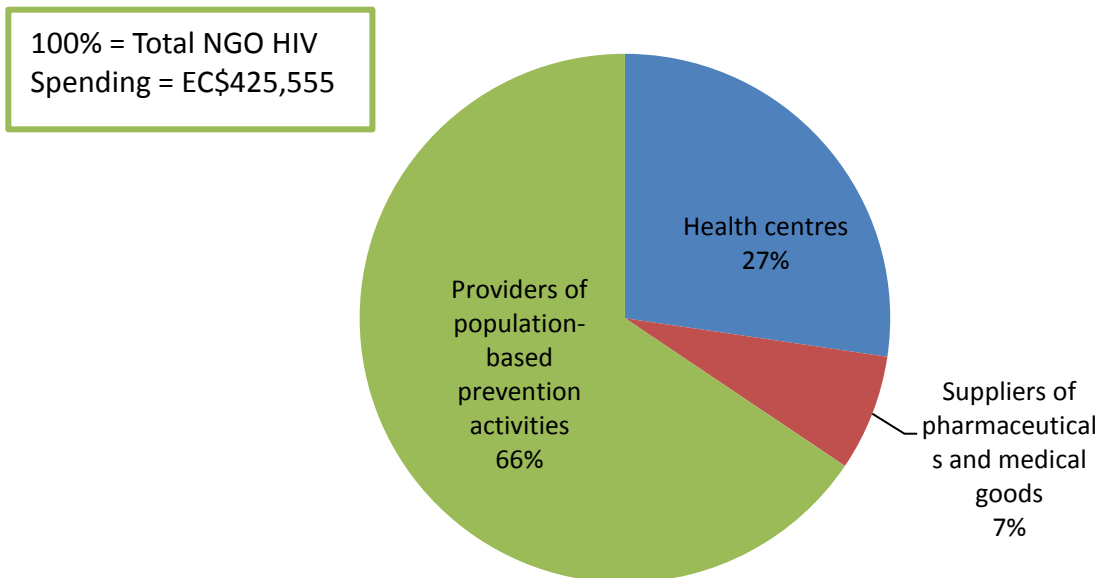
**FIGURE 15. BREAKDOWN OF MOH HIV SPENDING BY PROVIDER**



**Where do NGOs spend their HIV resources?**

Most (66 percent) NGO HIV spending went to providers of population-based prevention services. In many instances, the NGOs were not only the managers of the prevention funds but also the providers of these services. NGOs also allocated funding to health centers to support prevention activities and laboratory staff (27 percent of THE-HIV). Seven percent of NGO HIV spending was spent at pharmacies or other distributors of drugs and medical goods.

**FIGURE 16. BREAKDOWN OF NGO HIV SPENDING BY PROVIDER**



## 4.5 HEALTH CARE FUNCTIONS: WHAT TYPES OF PROGRAMS, GOODS, AND SERVICES ARE PURCHASED WITH HIV FUNDS?

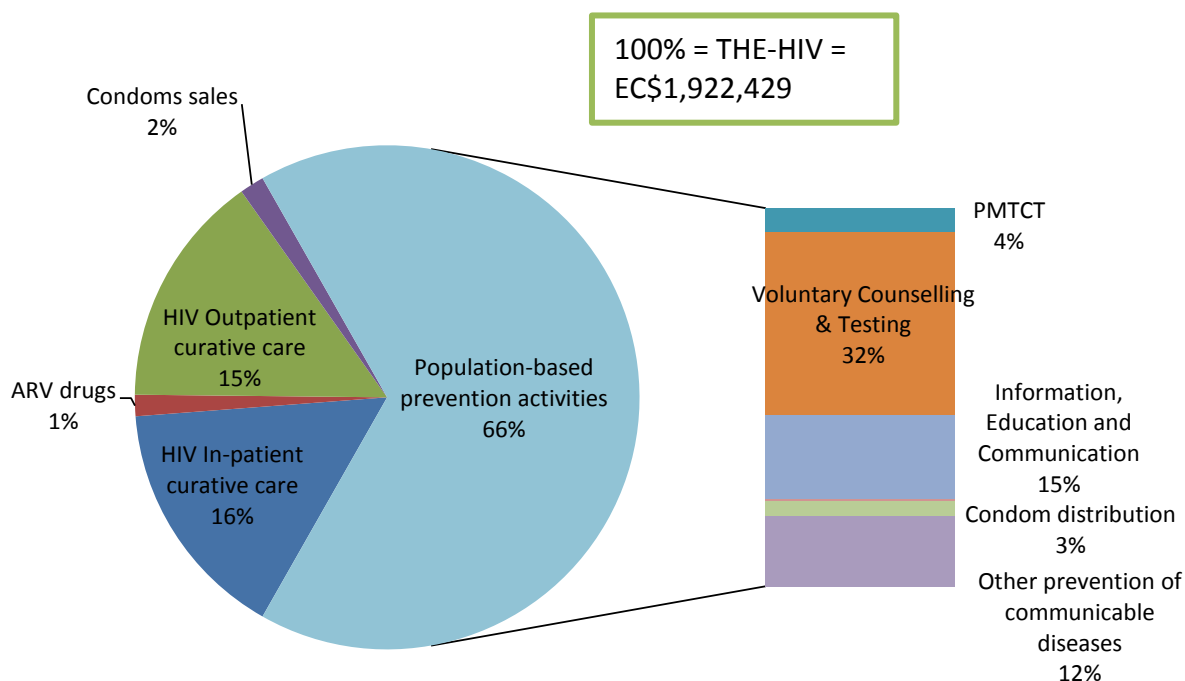
### 4.5.1 WHAT TYPES OF PROGRAMS AND SERVICES ARE HIV FUNDS SPENT ON?

HIV funds were primarily targeted to prevention activities; in 2010-11, these activities consumed 66 percent of THE-HIV spending (Figure 17). When prevention spending is broken down further, VCT was the largest subcomponent, accounting for 32 percent of THE-HIV. IEC represented 15 percent of THE-HIV. Dominica has a 100 percent success rate in preventing mother-to-child transmission (PMTCT) and is making good progress to achieving elimination of transmission, which may explain its small proportion of THE-HIV (4 percent).

“Other Prevention of Communicable Diseases” is a “catch-all” category of population-based activities to prevent HIV/AIDS that could not be disaggregated to a greater level of detail. The 12 percent of THE-HIV in this category indicates that spending on the other approaches to population-based prevention (e.g., condom distribution) may be underestimated.

In addition to the 66 percent of THE-HIV that went to population-based prevention in 2010-11, 32 percent of HIV spending was allocated to treatment of PLHIV, via inpatient and outpatient care. The outpatient curative care category includes the purchase of HIV test kits. One percent of THE-HIV was spent on the purchase of ARVs prescribed to the 39 PLHIV who received antiretroviral therapy (ART) between July 2010 and June 2011. These ARVs, which are provided in public health facilities, are purchased through the Pharmaceutical Procurement Service of the Organization of Eastern Caribbean States, with Global Fund funding. This expenditure represents the purchase of ARV drugs only and excludes labor and other costs associated with administering ARVs.

**FIGURE 17. BREAKDOWN OF THE-HIV SPENDING BY FUNCTION**



#### 4.5.2 WHAT TYPES OF GOODS AND SERVICES DO MANAGERS OF HIV FUNDS SPEND THE FUNDS ON?

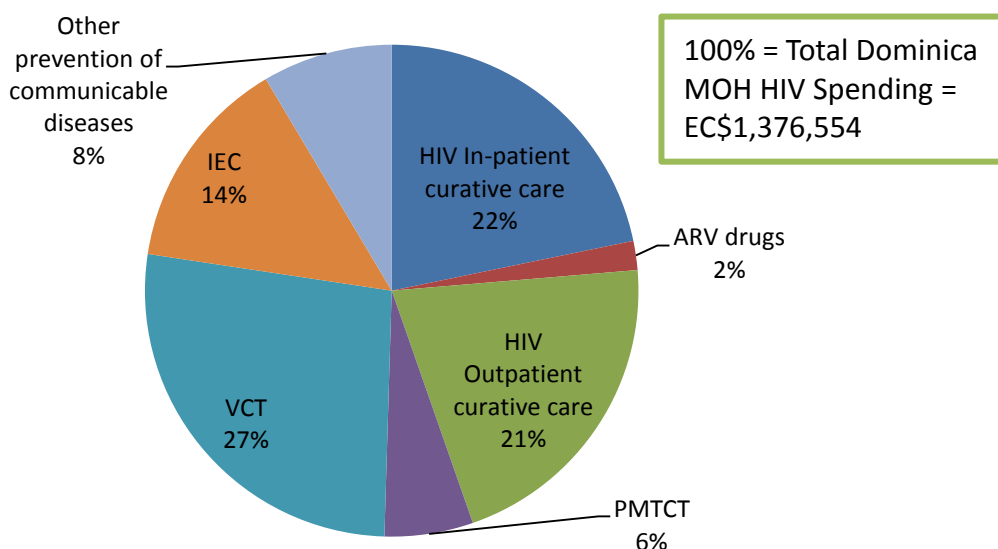
##### **What types of HIV goods and services does the Dominica MOH spend funds on?**

Overall, the MOH spent EC\$1.4 million on HIV. Broken down by function, the majority (55 percent) of this spending was on prevention activities. The government has supported the training of over 120 health care providers in VCT (including rapid testing) and these services are available at primary health care centers and PMH. This is reflected in the MOH’s spending on VCT activities, 27 percent of its HIV spending. Fourteen percent of its HIV spending went to IEC activities, 6 percent to PMTCT activities, and 8 percent to other HIV/AIDS prevention activities.

It was not possible to isolate some prevention activities at the facility level due to insufficient data. As such, some spending on these activities (e.g., condom distribution) is likely to be underestimated.

Just under half of the government’s HIV spending was on treatment for PLHIV; 22 percent was spent on inpatient services at PMH and 21 percent was spent on outpatient services occurring at PMH, two districts hospitals, and health centers.

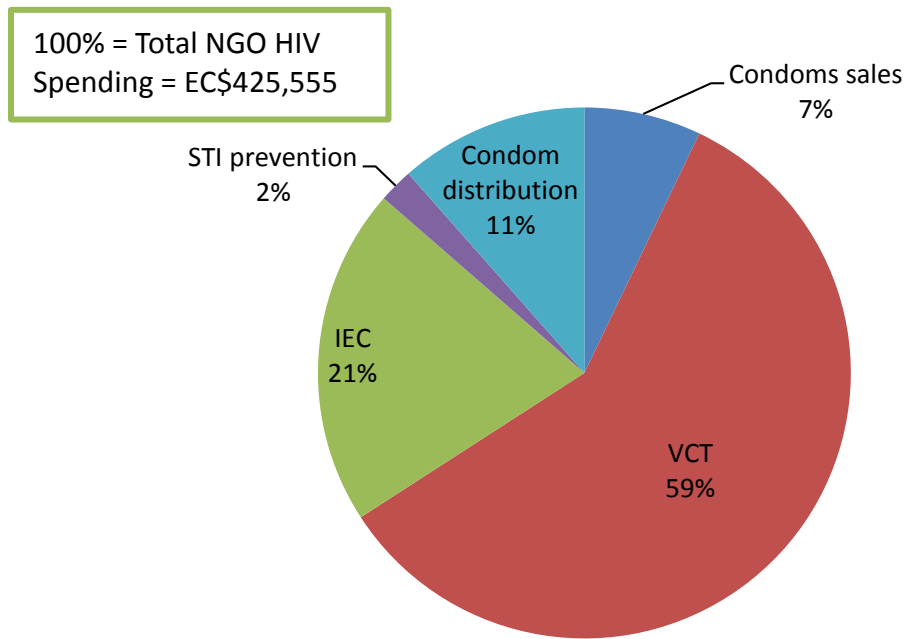
**FIGURE 18. BREAKDOWN OF DOMINICA MOH SPENDING BY FUNCTION**



##### **What types of HIV goods and services do NGOs spend funds on?**

As with the MOH, most HIV spending by NGOs (97 percent) was on HIV prevention activities. (The remaining 7 percent supported the retail sale of condoms.) As shown in Figure 19, VCT consumed the largest share (59 percent) of NGO HIV spending, followed by IEC (21 percent), condom distribution (11 percent), and prevention of sexually transmitted infections (2 percent). NGOs did not spend funds on HIV/AIDS treatment which, in public facilities, was reported to be completely administered by the government.

**FIGURE 19. BREAKDOWN OF SPENDING BY NGOS**



## 5. POLICY IMPLICATIONS AND RECOMMENDATIONS

This production of NHA and HIV Subaccounts in Dominica for the fiscal year July 2010 to June 2011 marks a major milestone for the country, which has long desired to generate such financial data. The Government of Dominica has expressed interest in “institutionalizing” NHA as a routine estimation process in the country, in order to generate data to facilitate health sector decision making. The 2010-2019 National Strategic Plan for Health plans to have a system in place by 2014 to track the flow of funds through the health system. Specifically, the government has been keen to see improved data quality and expanded analytic capacity, particularly in relation to tracking spending on CNCDs, a major priority area for the country, as well as the burden of spending for tertiary care off-island.

The NHA and HIV Subaccounts findings help demonstrate the extent to which real expenditures reflect health sector priorities, as laid out in the National Strategic Plan for Health. It also helps the government to assess the extent to which it is on the path to achieving Universal Health Coverage, a key objective identified by the Pan American Health Organization (PAHO) for the region toward which many of Dominica’s neighbors are moving. Dominica has also indicated its commitment to the principles of Universal Health Coverage, with accessibility, affordability, and equity as key principles underpinning its National Strategic Plan for Health.

Indicators such as THE, household OOP spending as a percentage of THE, and government health spending as a percentage of general government spending can now be compared to regional averages and global standards to evaluate the status of health system financing in Dominica. Spending managed by specific entities, such as the Social Security Board and private health insurance companies, and at specific providers, such as private clinics or off-island facilities, can also be considered in comparison with other countries in the region. These key indicators also serve to provide health sector stakeholders with vital baseline data, critical for evaluating new initiatives and considering the mix of financing options, as well as the roles of key institutions in implementing such options.

NHA and HIV Subaccounts also shed light on the HIV response in Dominica with respect to the country’s relative success in managing the epidemic as well as its “graduation” from the international development arena. With the amount of donor support for HIV in decline, the Government of Dominica will need to initiate various health financing and service delivery strategies to ensure the sustainability of its HIV programs. The HIV Subaccounts findings highlight funding and implementation gaps which remain.

This section, based on the findings from the NHA and HIV Subaccounts data, presents some general policy implications on health financing for the country, as well as some specific recommendations for the institutionalization of NHA in Dominica.

### 5.1 POLICY IMPLICATIONS OF GENERAL NHA FINDINGS

**The government’s contribution to THE demonstrates its strong commitment to health. Given rising health care costs, future analysis should investigate the efficiency of government spending and possible funding gaps:** Government spending on health in 2010-11 was 62 percent of THE in Dominica, higher than the regional average of 59 percent. Similarly, government health spending as a percentage of general government expenditure was 15 percent, which is higher than the regional average of 11.2 percent. The Government of Dominica should be congratulated on its achievement in committing such a proportion of its national resources to the health sector, an achievement not observed in many countries. Dominica already meets a comparable benchmark used in African countries, known as the “Abuja target,” spending 15 percent of national budget on health.

However, given the likely increase in the cost of and demand for health care services, sustaining and possibly increasing this allocation of government spending will become increasingly important. High reliance on public funding for health also renders it even more necessary to understand whether these resources for health are being used efficiently and allocated cost-effectively, or whether there is any waste or duplication of services (both at the administrative and service delivery levels). These may present opportunities to free up resources and increase efficiency in spending. A comparison of the resources necessary to achieve the objectives in the Strategic Plan for Health (i.e., what was planned to be spent) and THE (what was actually spent) will also be useful in understanding to what extent resources for health are sufficient and are being used for the intended purposes. For example, the NHA analysis demonstrates that very little funding (less than 0.1 percent of THE) appears to be directly dedicated to prevention activities for CNCs, a priority outlined in the Strategic Plan for Health. The appropriate use of public resources was also identified a priority area in the plan.

As the provision of tertiary care becomes a consideration for the Government of Dominica, further studies of the feasibility and cost-effectiveness of its provision on-island should be assessed, as well as the extent to which Dominicans face financial risks for seeking off-island care. While the already high proportion of public resources allocated to health may somewhat limit options for expanding fiscal space, options do exist for the government to increase resources for health and further protect its citizens from risk. Reforms that help to strengthen general macroeconomic growth will help to increase tax revenues which, assuming consistent budget allocations to health, will increase resources for health. Increased allocation of funding to prevention and more cost-effective treatments, as well as improvements in technical efficiency, may also free up resources. Some countries have introduced levies/ special taxes to raise revenues earmarked for health, such as “sin taxes” on sales of cigarettes or alcohol or dedicated value-added taxes.

**THE, though on par with the regional average, may be insufficient going forward:** At 6 percent of GDP in 2010-11, THE in Dominica was in line with the Caribbean average of 6 percent (WHO 2013). However, several factors suggest that this level of spending on health may not be sufficient for the country to reach its goals in the future:

- **Rising costs of providing health care:** The cost of providing health care services is rising around the world. Better technology, new medicines, and improved treatment options, as well as ageing populations and the growing prevalence of CNCs which require expensive and long-term treatment and monitoring services, are key reasons for this projected rise in Dominica.
- **Rising demand for health care services:** Many studies show that demand for health care services increases more than proportionally as GDP and household income grow (Thomson et al. 2009). Given overall trends and prospects for economic growth in the country, it is projected that Dominicans will continue to seek more health care as their incomes rise. The composition of these demanded services is also likely to shift toward care for more costly chronic non-communicable diseases. In addition, rising demand is expected as more citizens with unmet health needs (e.g., mental health, oncology services) seek newly available diagnostic, treatment, and rehabilitation services.
- **Achieving improved quality of care:** Dominica will likely want to continue to invest in health infrastructure and other capital goods as well as new systems for quality assurance such as accreditation of facilities in order to make improvements in the quality of care at facilities.

In addition, Dr. Clarissa Etienne, the Director of PAHO and a native of Dominica, stated in January 2013 that Universal Health Coverage in the region will be the organization’s main challenge (PAHO 2013). Other countries in the region have also stated their commitment to UHC. As Dominica moves to provide universal access to affordable, quality health care to its population, it will need to better understand the financing necessary to achieve this objective, and ways to mobilize the necessary resources.

**To protect its population against potentially catastrophic health expenditure, Dominica should aim to reduce its reliance on direct OOP payment to finance health care in favor of schemes that pool risk across the population:** At 34 percent of THE, OOP spending in Dominica is

high when compared to the WHO's suggested benchmark of about 20 percent of THE (WHO 2010). It is, however, on par with the regional average of 32 percent (WHO 2013). OOP spending at the time that health care is needed places a larger financial burden on the poor, who must spend more on health as a percentage of their income than do wealthier groups. The poor are more likely to avoid or postpone seeking needed care, and are also more at risk of being pushed deeper into poverty as they seek to balance the costs of seeking care with the purchase of other welfare-inducing goods and services. Financing reforms that encourage greater prepayment, promote risk pooling, and promote cross-subsidization from wealthy to poor – whether through insurance or taxation – would ameliorate the high risk of burdensome OOP payments on the poorest and sickest members of the population. Prepayment, risk pooling, and cross-subsidization ensure that healthier individuals subsidize care for the sick, that no one is prevented from obtaining essential care merely for economic reasons, and that the responsibility for financing health services is distributed equitably across socioeconomic groups within the population.

Within the context of the government's efforts to ensure universal access and equity in health, reducing reliance on OOP spending to finance health care is desirable. The NHA analysis shows that over two-thirds of OOP health expenditure was spent at private providers. Further analysis of the profile of households incurring these expenditures and the reasons for private sector care-seeking are important. For instance, care-seeking at private providers may be a result of the unavailability of certain services in the public sector, concerns about confidentiality, or problems with the perceived quality of care at public providers.

The causes for these high OOP expenditures, the small size of the population, and the profile of available health providers should be taken into consideration when determining which prepayment model will be most feasible and appropriate for Dominica, and warrants further study. Possible options include reforms to the user fee policy, instituting national health insurance, and including private providers in public or private insurance networks. National health insurance (NHI) schemes, sometimes referred to as social health insurance schemes, have been used (or are being considered) by many LAC countries. Usually funded through a payroll tax on formal sector workers or through value-added taxes, a mandatory NHI scheme is implemented by a separate funds management institution (such as a social security agency) and makes payments to health care providers in exchange for provision of a defined package of benefits. Such a scheme could ensure a large risk pool where high-income, healthy groups would cross-subsidize care for the poorer and sicker population. An NHI scheme could also contract for services from private providers, who provide some on-island services that are unavailable in public facilities, as well as provide coverage for those needing to seek tertiary care overseas. However, NHI schemes do entail administrative costs and these might be non-trivial for a small island population such as Dominica. The provider payment mechanism selected would also be critical, as some arrangements (like "fee-for-service") can result in cost escalation if not carefully designed.

Supporting greater coverage by private health insurance would be another option for enhancing financial protection, although existing private insurance plans currently have limited membership in Dominica and health expenditures managed by private insurers only constitute 1 percent of THE. Greater private insurance coverage could facilitate risk pooling for off-island care in particular. Enhanced regulation of the private health insurance sector may be necessary (including guidance on premium prices, provider reimbursements, minimum benefits packages, preexisting condition clauses, and other related issues).

**Low levels of spending at off-island facilities, predominantly financed by OOP payments, indicate lack of financial risk protection and high costs as potential barriers to accessing tertiary care.** According to NHA data, per capita spending at overseas facilities was very low in 2010-11, at EC\$13. For a country with an ageing population and a high burden of CNCDs that does not provide specialized care on-island, it would seem likely that there is an unmet need for tertiary care. High costs or lack of financial protection may be preventing Dominicans from seeking this type of care. Indeed, 70 percent of spending on overseas care is funded through household OOP expenditure. For those who can afford it, overseas care is sometimes covered by private health insurance, but government-subsidized service delivery is limited to primary and secondary health care with few exceptions. Those seeking medically necessary off-island care, and who do not have private insurance, therefore appear to have no financial risk protection and may face catastrophic expenses. Ideally, future prepayment schemes should include basic coverage for off-island care at pre-approved facilities, and an explicit need-based referral

system should be established. Such a system should include clear criteria for allocating financial subsidies to targeted groups/cases to ensure that these services are available not only to those who can afford them but all who need them.

As the government explores improvements in tertiary care provision, more analysis will be needed to determine the reasons for seeking off-island care; the relative quality and value for money at different facilities; the pros and cons of investing in providing specialized care locally; and the extent of government and/or private insurance coverage that will be necessary to protect those needing to access care at different facilities. Further analysis of household health expenditure and utilization survey data should also be conducted to reveal why individuals seek care overseas and the extent to which the high cost (of treatment and travel) represents a barrier to access for lower-income groups in Dominica. The analysis should be extended to include considerations of what investments may be needed to scale up local health services (either through partnership arrangements with private specialists on-island, off-island health providers, or telemedicine) as part of the overall health systems strengthening program.

## 5.2 POLICY IMPLICATIONS OF THE HIV SUBACCOUNTS

### **Low levels of OOP spending by PLHIV imply good financial risk protection in public facilities:**

The HIV Subaccounts findings show that, in contrast to the broader population, PLHIV do not spend OOP on their health care in public facilities. This indicates that the Government of Dominica and donor-led efforts to ensure financial coverage for this vulnerable population have been quite successful. However, further analysis should be conducted to understand the level of OOP expenditure in private facilities. According to the NHARP, there are PLHIV who prefer to seek care in private facilities or overseas and it is important to understand the financial burden they incur for their medical expenses.

**Need to understand the financing gap in the HIV response and strategies for mobilizing resources:** While Dominica currently benefits from donor funding, particularly for ARVs and prevention activities, its status as an upper-middle-income country renders it at risk of reduced external funding in the future. Funding for HIV/AIDS also competes with CNCDS for domestic resources.

With the potential reduction in donor funding for HIV programs, NHA findings shed light on where there may be a future financing gap. In 2010-11, donors provided over EC\$840,000 worth of HIV resources to the country in the form of ARV drugs, test kits, other medical goods, and technical assistance. This amount was less than the HIV resources contributed by the Government of Dominica which totaled EC\$1.1 million. However, donors financed over one half (58 percent) of all HIV prevention activities (EC\$744,207) in Dominica. Given that prevention is emphasized in the 2010–2014 HIV Strategic Plan, the Government of Dominica will need to identify resource mobilization strategies for filling the funding gap for prevention activities that will be created by the expected decrease in donor funding. The same concern applies for absorbing the costs of HIV/AIDS treatment, since all ARVs, test kits, condoms, and other HIV-related commodities are currently donor-financed.

## 5.3 RECOMMENDATIONS FOR INSTITUTIONALIZING NHA IN DOMINICA

### 5.3.1 POLITICAL AND PROCESS-ORIENTED RECOMMENDATIONS FOR INSTITUTIONALIZING NHA

**Establish formal MOH commitment to routine NHA estimations:** Given its value as a tool for planning and budgeting in the health sector, monitoring progress of policy interventions, and assessing the health financing system overall, a formal public commitment by the MOH to make NHA a routine part of government operations is a key requirement for institutionalizing NHA. This commitment should include in-house capacity building and should specify the estimation interval (every 2-3 years is recommended for



institutional data, while every five years is recommended for household data) as well as generate expectations from those who use the results and those who contribute data to the estimation. This commitment has already been expressed in the 2010-2019 National Strategic Plan for Health.

For those who contribute data (namely, NGOs, insurance companies, and employers who spend money on health), the MOH should mandate – or at the very least establish strong expectations – that these entities operating in Dominica should respond to the NHA health expenditure surveys in a timely manner. The lack of engagement of some stakeholders (perhaps due to lack of understanding of the relevance of providing NHA data) was observed by the NHA team, which resulted in non-responses from several key organizations. Improving response rates for institutional data, including NGOs, employers, and insurance companies, will facilitate the NHA production process while also improving the quality of the results on which key policy decisions will be made. For those who might use NHA data, awareness of these data and their value in health sector policy making can build demand that will, in turn, help to ensure regular NHA estimations. This cycle of demand and production is essential for true institutionalization.

**Advocate for regular household health expenditure and utilization surveys:** In addition to establishing commitment to routine NHA estimation, the MOH should also commit to routine gathering of household health expenditure and utilization data. Household health expenditure data are critical components of the NHA, as they are needed to complete estimates of OOP health spending and are essential to measuring the level of financial risk protection available to the population and the extent of catastrophic expenditure for health in the most vulnerable groups. However, estimating household health expenditure is often one of the most time- and resource-intensive components of the NHA analysis.

The most efficient long-term approach for collecting health expenditure data for NHA through surveys is to include questions on health expenditure for NHA as part of other larger and more regularly conducted national surveys by the national statistical authorities. Ideally, the MOH should continue to advocate for including health expenditure modules in representative surveys, even if the institutionalization of NHA is delayed. For example, assessments such as the CPA are useful ways of collecting household health expenditure, and the feasibility of incorporating more precise NHA questions into the CPA survey instruments should be explored, in order to harmonize data collection and reduce “survey fatigue” for the population.

**Continue strong relationship with NHA technical resources:** The Centre for Health Economics of the University of the West Indies can function as regional expert and provider of technical assistance for conducting and analyzing NHA data. Other NHA technical resources include PAHO, WHO, and USAID. As the Government of Dominica plans for the next round of NHA, it should actively engage one or more of these partners, and work to build its own capacity in the long term.

**Generate awareness of NHA data and their policy applications:** Too often, NHA data are generated but not used to their full potential. The MOH and other stakeholders should make efforts to increase general awareness of the findings and policy implications of this analysis, and promote its use in informing policy initiatives. Once stakeholders are accustomed to having these data, they will begin to expect them. This type of demand is essential to the institutionalization process – the value of the investment in generating NHA data is only grasped when the data are used.

### 5.3.2 TECHNICAL RECOMMENDATIONS FOR INSTITUTIONALIZING NHA

**Develop a more robust data collection platform.** To complete this analysis, the NHA team conducted surveys of donors, NGOs, insurance companies, and employers spending on health services. Data collected were essential in the NHA estimation process. However, conducting these surveys is time consuming, particularly when institutions are unfamiliar with the questions and needs of the NHA team. Also, these data are potentially valuable not just for each bi- or tri-annual NHA but also on a more regular basis. The Government of Dominica should consider establishing procedures, core datasets, and an electronic method to streamline and regularize the process of collecting health spending data from these institutions. For example, in other countries, submission of key financial data has been a prerequisite for renewing the registration of NGOs operating in-country. This should of course be reciprocated with confidentiality agreements by the government that ensures appropriate use of the data in NHAs. With

regard to tracking government expenditure, better monitoring of expenditure flows from the district level to facility level will not only aid the generation of NHA analysis, but will enable the government to understand how its resources are being utilized.

**Establish necessary facility information systems for improved tracking of spending on**

**CNCDs:** In Dominica, information was insufficient to allow detailed resource tracking for prevention of CNCDs. To improve resource tracking for the next round of NHA, Dominica should work to improve the availability of unit cost and utilization data for this area, which is posing an increasing burden on the health and resources of Dominicans. In the short term, Dominica should invest in costing or facility-based surveys to generate unit cost information on priority disease and prevention activities. These studies will provide a firm understanding of how much facilities spend, particularly in terms of labor, overhead costs, and treatment supplies for each type of patient. Facility surveys can provide a “back of the envelope” look at these unit costs, while costing studies will provide a more rigorous analysis. Dominica might also consider adding detail to the patient utilization information collected at public facilities, categorizing use by inpatient and outpatient settings. In the long term, Dominica should institutionalize this type of analysis, or establish a claims and billing system that will provide both cost and utilization data.

## ANNEX A: GENERAL NHA TABLES<sup>7</sup>

Reported currency: East Caribbean Dollar

Subaccount: General (Source x Agent)

| Source x Agent            | Government of Dominica | Employers      | Household OOP     | NGOs          | External donors  | Total             | Agent as % of THE |
|---------------------------|------------------------|----------------|-------------------|---------------|------------------|-------------------|-------------------|
| Ministry of Health        | 48,838,836             |                |                   |               | 610,203          | 49,449,039        | 63.1%             |
| Social Security           | 3,508                  | 6,041          | 3,452             |               |                  | 13,001            | 0.0%              |
| Private Insurance         | 114,320                | 445,506        | 123,325           |               |                  | 683,150           | 0.9%              |
| Household OOP spending    |                        |                | 26,549,252        |               |                  | 26,549,252        | 33.9%             |
| NGOs                      |                        |                |                   | 69,887        | 1,509,084        | 1,578,971         | 2.0%              |
| Overseas organisations    |                        |                |                   |               | 120,321          | 120,321           | 0.2%              |
| <b>Total (THE)</b>        | <b>48,956,664</b>      | <b>451,547</b> | <b>26,676,028</b> | <b>69,887</b> | <b>2,239,608</b> | <b>78,393,734</b> | <b>100.0%</b>     |
| Health-Related            | 404,105                |                |                   |               | 93,583           | 497,688           |                   |
| <b>Total (NHE)</b>        | <b>49,360,769</b>      | <b>451,547</b> | <b>26,676,028</b> | <b>69,887</b> | <b>2,333,191</b> | <b>78,891,422</b> |                   |
| <b>Source as % of THE</b> | <b>62.4%</b>           | <b>0.6%</b>    | <b>34.0%</b>      | <b>0.1%</b>   | <b>2.9%</b>      | <b>100.0%</b>     |                   |

<sup>7</sup> These numbers are estimates derived from split assumptions and, therefore, we are unable to ascertain the level of certainty associated with each number. Small amounts are often the result of applied split rules.

Reported currency: East Caribbean Dollar

Subaccount: General (Agent x Provider)

| Agent x Provider   | Government of<br>Dominica | Social Security | Private Insurance | Household OOP     | NGOs             | Overseas organisations | Row Total         | Provider as %<br>of THE |
|--|---------------------------|-----------------|-------------------|-------------------|------------------|------------------------|-------------------|-------------------------|
| Princess Margaret Hospital                                     | 31,124,192                | 650             | 22,890            | 3,493,598         | 374,332          |                        | 35,015,662        | 44.7%                   |
| District Hospitals   | 4,104,135                 | 260             | 7,735             | 1,227,481         |                  |                        | 5,339,611         | 6.8%                    |
| Private providers  |                           | 11,961          | 371,568           | 17,572,962        |                  |                        | 17,956,491        | 22.9%                   |
| Health centres   | 7,820,787                 |                 |                   | 2,986,573         | 116,310          |                        | 10,923,670        | 13.9%                   |
| Pharmacy and suppliers of other<br>medical goods               |                           | 130             | 5,602             | 620,056           | 30,233           |                        | 656,021           | 0.8%                    |
| Providers of population-based<br>prevention activities         | 1,857,742                 |                 |                   |                   | 666,430          | 120,321                | 2,644,493         | 3.4%                    |
| Government health<br>administrators                            | 4,542,184                 |                 |                   |                   | 387,166          |                        | 4,929,350         | 6.3%                    |
| Overseas care  |                           |                 | 275,355           | 648,581           | 4,500            |                        | 928,437           | 1.2%                    |
| <b>Column total (THE)</b>                                      | <b>49,449,039</b>         | <b>13,001</b>   | <b>683,150</b>    | <b>26,549,252</b> | <b>1,578,971</b> | <b>120,321</b>         | <b>78,393,734</b> | <b>100.0%</b>           |
| HP.8.3 Other institutions<br>providing health-related services | 404,105                   |                 |                   |                   | 93,583           |                        | 497,688           |                         |
| <b>Column Total (NHE)</b>                                      | <b>49,853,144</b>         | <b>13,001</b>   | <b>683,150</b>    | <b>26,549,252</b> | <b>1,672,554</b> | <b>120,321</b>         | <b>78,891,422</b> |                         |
| <b>Agent as % of THE</b>                                       | <b>63.1%</b>              | <b>0.0%</b>     | <b>0.9%</b>       | <b>33.9%</b>      | <b>2.0%</b>      | <b>0.2%</b>            | <b>100.0%</b>     |                         |

Reported currency: East Caribbean Dollar

Subaccount: General (Provider x Function)

| Provider x Function                             | Princess Margaret Hospital | District Hospitals | Private providers | Health centres    | Pharmacy and suppliers of other medical goods | Population-based prevention | Administration of Health | Overseas care  | Row Total (THE)   | Other institutions providing health-related services | Row Total (NHE)   | Function as % of THE |
|---|----------------------------|--------------------|-------------------|-------------------|---|-----------------------------|--------------------------|----------------|-------------------|--|-------------------|----------------------|
| Inpatient curative care                         | 24,492,525                 | 2,657,270          | 1,152,593         |                   |   |                             |                          | 279,855        | 28,582,243        |  |                   | 36.5%                |
| Outpatient curative care                        | 4,760,546                  | 2,682,341          | 16,803,898        | 10,317,494        |   |                             |                          | 648,581        | 35,212,860        |  |                   | 44.9%                |
| Pharmaceuticals                                 |                            |                    |                   |                   | 656,021                                       |                             |                          |                | 656,021           |  |                   | 0.8%                 |
| Population based prevention activities          |                            |                    |                   | 150,869           |   | 2,644,493                   |                          |                | 2,795,362         |  |                   | 3.6%                 |
| Administration of Health (exc. Social Security) |                            |                    |                   |                   |   |                             | 4,929,350                |                | 4,929,350         |  |                   | 6.3%                 |
| Capital investment                              | 5,762,592                  |                    |                   | 455,307           |   |                             |                          |                | 6,217,899         |  |                   | 7.9%                 |
| <b>Column total (THE)</b>                       | <b>35,015,662</b>          | <b>5,339,611</b>   | <b>17,956,491</b> | <b>10,923,670</b> | <b>656,021</b>                                | <b>2,644,493</b>            | <b>4,929,350</b>         | <b>928,437</b> | <b>78,393,734</b> |  |                   | <b>100.0%</b>        |
| Education and training of health personnel      |                            |                    |                   |                   |   |                             |                          |                |                   | 93,583   | 93,583            |                      |
| Environmental health                            |                            |                    |                   |                   |   |                             |                          |                |                   | 404,105  | 404,105           |                      |
| <b>Column Total (NHE)</b>                       |                            |                    |                   |                   |   |                             |                          |                |                   | <b>497,688</b>                                       | <b>78,891,422</b> |                      |
| <b>HP % of THE</b>                              | <b>44.7%</b>               | <b>6.8%</b>        | <b>22.9%</b>      | <b>13.9%</b>      | <b>0.8%</b>                                   | <b>3.4%</b>                 | <b>6.3%</b>              | <b>1.2%</b>    | <b>100.0%</b>     |  |                   |                      |

Reported currency: East Caribbean Dollar

Subaccount: General (Agent x Function)

| Agent x Function                                  | Government of Dominica | Social Security | Private Insurance | Household OOP     | NGOs             | Overseas organisations | Row Total         | Function as % of THE |
|---|------------------------|-----------------|-------------------|-------------------|------------------|------------------------|-------------------|----------------------|
| Inpatient curative care                           | 22,410,526             | 764             | 295,364           | 5,871,089         | 4,500            |                        | 28,582,243        | 36.5%                |
| Outpatient curative care                          | 14,386,130             | 12,107          | 382,185           | 20,058,107        | 374,332          |                        | 35,212,860        | 44.9%                |
| Pharmaceuticals                                   |                        | 130             | 5,602             | 620,056           | 30,233           |                        | 656,021           | 0.8%                 |
| Population based prevention activities            | 1,892,300              |                 |                   |                   | 782,740          | 120,321                | 2,795,362         | 3.6%                 |
| Administration of Health (exc. Social Security)   | 4,542,184              |                 |                   |                   | 387,166          |                        | 4,929,350         | 6.3%                 |
| Capital investment                                | 6,217,899              |                 |                   |                   |                  |                        | 6,217,899         | 7.9%                 |
| <b>Column total (THE)</b>                         | <b>49,449,039</b>      | <b>13,001</b>   | <b>683,150</b>    | <b>26,549,252</b> | <b>1,578,971</b> | <b>120,321</b>         | <b>78,393,734</b> | <b>100.0%</b>        |
| HC.R.2 Education and training of health personnel |                        |                 |                   |                   | 93,583           |                        | 93,583            |                      |
| HC.R.5 Environmental health                       | 404,105                |                 |                   |                   |                  |                        | 404,105           |                      |
| <b>Column Total (NHE)</b>                         | <b>49,853,144</b>      | <b>13,001</b>   | <b>683,150</b>    | <b>26,549,252</b> | <b>1,672,554</b> | <b>120,321</b>         | <b>78,891,422</b> |                      |
| <b>Agent as % of THE</b>                          | <b>63.1%</b>           | <b>0.0%</b>     | <b>0.9%</b>       | <b>33.9%</b>      | <b>2.0%</b>      | <b>0.2%</b>            | <b>100.0%</b>     |                      |

## ANNEX B: HIV SUBACCOUNTS NHA TABLES<sup>8</sup>

Reported currency: East Caribbean Dollar

Subaccount: HIV (Source x Agent)

| Source x Agent            | Government of Dominica | External donors | Total            | Agent as % of THE |
|---------------------------|------------------------|-----------------|------------------|-------------------|
| Ministry of Health        | 1,079,385              | 297,168         | 1,376,554        | 71.6%             |
| NGOs                      |                        | 425,555         | 425,555          | 22.1%             |
| Overseas organisations    |                        | 120,321         | 120,321          | 6.3%              |
| <b>Total (THE)</b>        | <b>1,079,385</b>       | <b>843,044</b>  | <b>1,922,429</b> | <b>100.0%</b>     |
| <b>Source as % of THE</b> | <b>56.1%</b>           | <b>43.9%</b>    | <b>100.0%</b>    |                   |

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<sup>8</sup> These numbers are estimates derived from split assumptions and, therefore, we are unable to ascertain the level of certainty associated with each number. Small amounts are often the result of applied split rules.

**Reported currency: East Caribbean Dollar**

**Subaccount: HIV (Agent x Provider)**

| <b>Agent x Provider</b>                             | <b>Government of Dominica</b> | <b>NGOs</b>    | <b>Overseas organisations</b> | <b>Total</b>     | <b>Provider as % of THE</b> |
|---|-------------------------------|----------------|-------------------------------|------------------|-----------------------------|
| Princess Margaret Hospital                          | 324,379                       |                |                               | 324,379          | 16.9%                       |
| District hospitals                                  | 39,613                        |                |                               | 39,613           | 2.1%                        |
| Health centres                                      | 285,390                       | 116,310        |                               | 401,700          | 20.9%                       |
| Suppliers of pharmaceuticals and medical goods      |                               | 30,233         |                               | 30,233           | 1.6%                        |
| Providers of population-based prevention activities | 727,172                       | 279,011        | 120,321                       | 1,126,503        | 58.6%                       |
| <b>Total (THE)</b>                                  | <b>1,376,554</b>              | <b>425,555</b> | <b>120,321</b>                | <b>1,922,429</b> | <b>100.0%</b>               |
| <b>Agent as % of THE</b>                            | <b>71.6%</b>                  | <b>22.1%</b>   | <b>6.3%</b>                   | <b>100.0%</b>    |                             |



**Reported currency: East Caribbean Dollar**

**Subaccount: HIV (Provider x Function)**

| <b>Provider x Function</b>                | <b>Princess Margaret Hospital</b> | <b>District hospital</b> | <b>Health centres</b> | <b>Suppliers of pharmaceuticals and medical goods</b> | <b>Population-based prevention programmes</b> | <b>Total (THE)</b> | <b>Function % of THE</b> |
|---|-----------------------------------|--------------------------|-----------------------|---|---|--------------------|--------------------------|
| HIV In-patient curative care              | 299,427                           |                          |                       |   |   | <b>299,427</b>     | <b>15.6%</b>             |
| ARV drugs                                 |                                   |                          | 26,294                |   |   | <b>26,294</b>      | <b>1.4%</b>              |
| HIV Outpatient curative care              | 24,952                            | 39,613                   | 224,537               |   |   | <b>289,103</b>     | <b>15.0%</b>             |
| Condoms sales                             |                                   |                          |                       | 30,233  |   | <b>30,233</b>      | <b>1.6%</b>              |
| PMTCT                                     |                                   |                          |                       |   | 79,975  | <b>79,975</b>      | <b>4.2%</b>              |
| Voluntary Counselling & Testing           |                                   |                          | 150,869               |   | 469,584                                       | <b>620,453</b>     | <b>32.3%</b>             |
| Information, Education and                |                                   |                          |                       |   | 281,570                                       | <b>281,570</b>     | <b>14.6%</b>             |
| STI prevention                            |                                   |                          |                       |   | 8,880   | <b>8,880</b>       | <b>0.5%</b>              |
| Condom distribution                       |                                   |                          |                       |   | 48,876  | <b>48,876</b>      | <b>2.5%</b>              |
| Other prevention of communicable diseases |                                   |                          |                       |   | 237,617                                       | <b>237,617</b>     | <b>12.4%</b>             |
| <b>Total (THE)</b>                        | <b>324,379</b>                    | <b>39,613</b>            | <b>401,700</b>        | <b>30,233</b>   | <b>1,126,503</b>                              | <b>1,922,429</b>   | <b>100.0%</b>            |
| <b>Provider as % of THE</b>               | <b>16.9%</b>                      | <b>2.1%</b>              | <b>20.9%</b>          | <b>1.6%</b>   | <b>58.6%</b>                                  | <b>100.0%</b>      |                          |

Reported currency: East Caribbean Dollar

Subaccount: HIV (Agent x Function)

| Agent x Function                          | Government of Dominica | NGOs           | Overseas organisations | Total            | Functionas % of THE |
|---|------------------------|----------------|------------------------|------------------|---------------------|
| HIV In-patient curative care              | 299,427                |                |                        | 299,427          | 15.6%               |
| ARV drugs                                 | 26,294                 |                |                        | 26,294           | 1.4%                |
| HIV Outpatient curative care              | 289,103                |                |                        | 289,103          | 15.0%               |
| Condoms sales                             |                        | 30,233         |                        | 30,233           | 1.6%                |
| PMTCT                                     | 79,975                 |                |                        | 79,975           | 4.2%                |
| VCT                                       | 370,453                | 250,000        |                        | 620,453          | 32.3%               |
| IEC                                       | 194,006                | 87,564         |                        | 281,570          | 14.6%               |
| STI prevention                            |                        | 8,880          |                        | 8,880            | 0.5%                |
| Condom distribution                       |                        | 48,876         |                        | 48,876           | 2.5%                |
| Other prevention of communicable diseases | 117,296                |                | 120,321                | 237,617          | 12.4%               |
| <b>Total (THE)</b>                        | <b>1,376,554</b>       | <b>425,555</b> | <b>120,321</b>         | <b>1,922,429</b> | <b>100.0%</b>       |
| <b>Agent as % of THE</b>                  | <b>71.6%</b>           | <b>22.1%</b>   | <b>6.3%</b>            | <b>100.0%</b>    |                     |

# ANNEX C: PARTICIPANTS OF THE NHA LAUNCH WORKSHOP

Stakeholders of the health sector in Dominica gathered to participate in the launch workshop for the exercise, held July 19, 2012. During this launch, participants and NHA experts established the goals of the exercise as well as the timeline and primary data requirements to complete it. Participants from Dominica who participated in this workshop are listed below.

| <b>Participant</b>       | <b>Agency, position</b>              |
|--------------------------|--------------------------------------|
| Hon. Julius Timothy      | Minister of Health                   |
| Helen Royer              | Acting Permanent Secretary, MOH      |
| Antonia Paul Rolle       | Ministry of Finance                  |
| Clemencia Boyer          | Touch la Vie                         |
| Julie Frampton           | HIV/AIDS Office – Coordinator, NHARP |
| Angela Desabaye          | HIV/AIDS Office, NHARP               |
| Martin Christmas         | MOH, Primary Health Care             |
| Rosana Emmanuel          | Ross University                      |
| Marilyn Zamore           | Private Sector Foundation for Health |
| Anderson Parillon        | Ministry of Finance                  |
| Vernice Taylor           | Central Statistics Office            |
| Ms. John                 | MOH, Dental Department               |
| Lydia White              | Princess Margaret Hospital           |
| Augustus Claytus Etienne | Dominica Social Security             |
| Cheryl Rolle             | SAGICOR                              |
| Doreen Fabien            | MOH, NHA Point Person                |
| Professor Karl Theodore  | UWI                                  |
| Roger McLean             | UWI                                  |
| Don Bethelmie            | UWI                                  |
| Darwin Young             | Health Systems 20/20                 |
| Karishmah Bhuanee        | Health Systems 20/20                 |

# ANNEX D: HEALTH EXPENDITURE AND UTILIZATION SURVEY OF PEOPLE LIVING WITH HIV: SUMMARY ANALYSIS

## I. Purpose and Objective of Survey

The Dominica Health Expenditure and Utilization Survey of People Living with HIV (PLHIV) was conducted as one component of the Dominica 2010/2011 National Health Accounts (NHA) and HIV Subaccounts analysis. The analysis was a collaborative effort between the Government of Dominica and USAID's Health Systems 20/20 Caribbean Project, with implementing partners Abt Associates and the HEU, Centre for Health Economics of The University of the West Indies, St. Augustine.

The survey of PLHIV was conducted over the period September 16–30, 2013. Its main objective was to capture information on current health care utilization and spending on health services by PLHIV. These data can show patterns of inpatient and outpatient health care use; spending on pharmaceuticals; choice of health care providers (public, private, or off-island); expenditure associated with purchasing health services; and the extent of health insurance coverage. The survey also aimed to measure the socioeconomic status of the households of the interviewed PLHIV, in order to rank the households by socioeconomic status and to show the magnitude of PLHIV households' health spending relative to their overall consumption.

## 2. Methodology

Individual and household data on the PLHIVs were collected through the following process:

- i) Design, pre-testing, and validation of a customized questionnaire covering the following key areas: demographic characteristics; HIV diagnosis; use of and spending on preventive services/products; health insurance coverage; use of outpatient services; use of inpatient services; housing; household expenditure and income;
- ii) A purposive selection of a sample (30) of the population of PLHIV based on recommendations of local health officials. There were 16 respondents out of an estimated population of 70 PLHIV. This was a convenience rather than random sample, since willingness to participate and timing of monthly visits to health providers (to coincide with survey period) were key criteria;
- iii) Discussions with personnel of the Dominica National HIV/AIDS Response Programme with respect to the conduct of the survey;

- iv) Roll-out of the survey using personal interviews along with direct data entry on the questionnaires;
- v) Checking and cleaning of the completed questionnaires and entry of datasets for analysis using STATA; and
- vi) Validation of findings with key officials from Dominica.

These data on health spending by PLHIV informed the estimates of out-of-pocket (OOP) spending by PLHIV in the Dominica 2010/11 HIV Subaccounts. The survey also collected data used to estimate socioeconomic status of surveyed households. Documenting housing conditions and assets, and measuring both income and spending are methods researchers can use for this purpose, and all were employed in this survey.

Several limitations to the estimates of health spending by PLHIV as well as PLHIV households' total annual expenditure and income should be noted. First, the survey sample (16 PLHIV) was relatively small, thus only allowing for a certain level of confidence in the resulting estimations. The sample was not randomly drawn and so might not be representative of the PLHIV population in Dominica. Gaps in the responses to some questions may have led to some underestimation of PLHIV OOP spending and total annual household income and expenditure. Finally, because this survey was primarily intended to capture health expenditures by PLHIV, questions about total household expenditure and income were asked at the end of the survey; as a result of respondent fatigue, expenditure and income of respondents' households may be underestimated.

Worthy of note is that some of the estimates presented in this summary analysis do not align precisely with those in the HIV Subaccounts tables. The reasons for these differences are a) the HIV Subaccounts methodology requires that some categories are combined together and b) this summary report presents estimates in 2013 EC dollars, while the HIV Subaccounts data are in 2010-11 EC dollars.

### **3. FINDINGS**

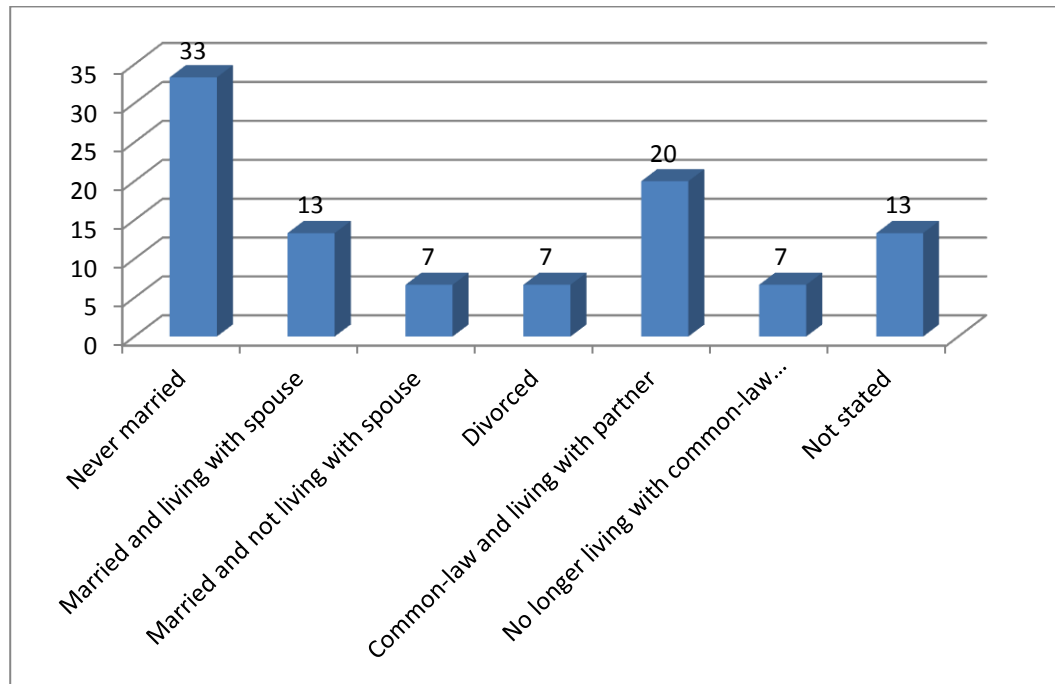
#### *a. Characteristics of PLHIV*

Ten of the 16 respondents (63 percent) of the PLHIV survey were male and six (37 percent) were female. The survey results indicate that the mean age was 44 for all respondents, 42 for all male respondents and 46 for all female respondents.

The marital status and level of education varied across respondents in the survey sample. The single largest group of the 16 respondents (33 percent) were never married (Figure D-1). Twenty percent were living

with a partner in a common law relationship; another 13 percent were married and living with a partner. Seven percent were married and not living with a spouse; the same percentage were in a common-law relationship but not living together, and divorced.

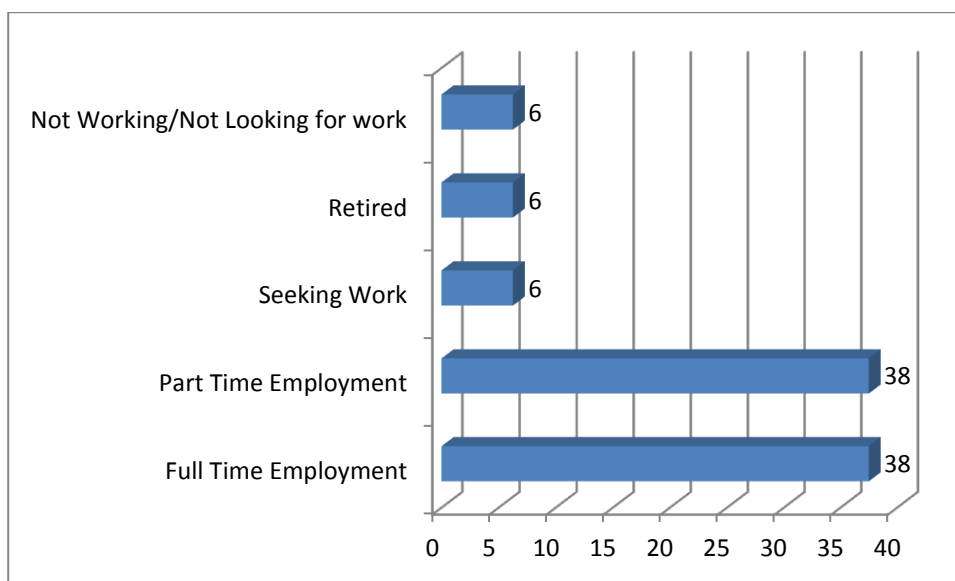
Figure D-1: Marital Status of Respondents (%)



Regarding education, two respondents (13 percent) had no formal education. Half of the respondents (n=8) had completed primary-level education, and three (19 percent) had completed secondary-level education. A further two respondents (13 percent) had achieved higher-level education.

Regarding employment, most respondents worked full time or part time (Figure D-2). Six percent were seeking employment. The remainder was either not seeking work or were retired.

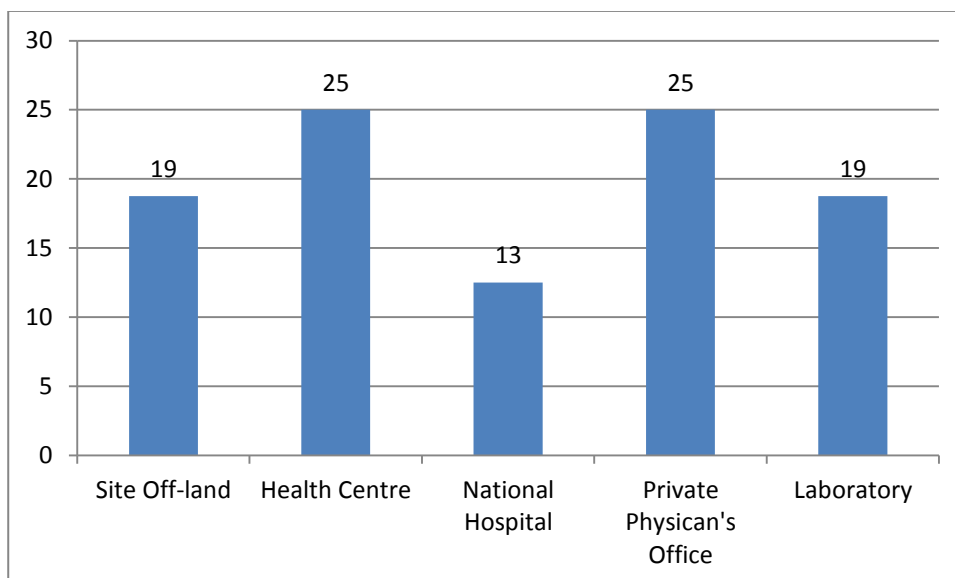
Figure D-2: Employment Status of Respondents (%)



*b. HIV Diagnosis*

Respondents in this sample were tested for HIV at five types of facilities (Figure D-3). Half (n=8, or 50 percent) tested positive at a health center or private physician’s office.

Figure D-3: Location of Positive Test for HIV



Respondents were also asked about referrals they may have received after testing positive. Thirteen respondents (81 percent) were referred to the National HIV/AIDS Response Programme, five (31 percent) to the Princess Margaret Hospital (PMH), the national referral hospital in Dominica, four (25 percent) to a

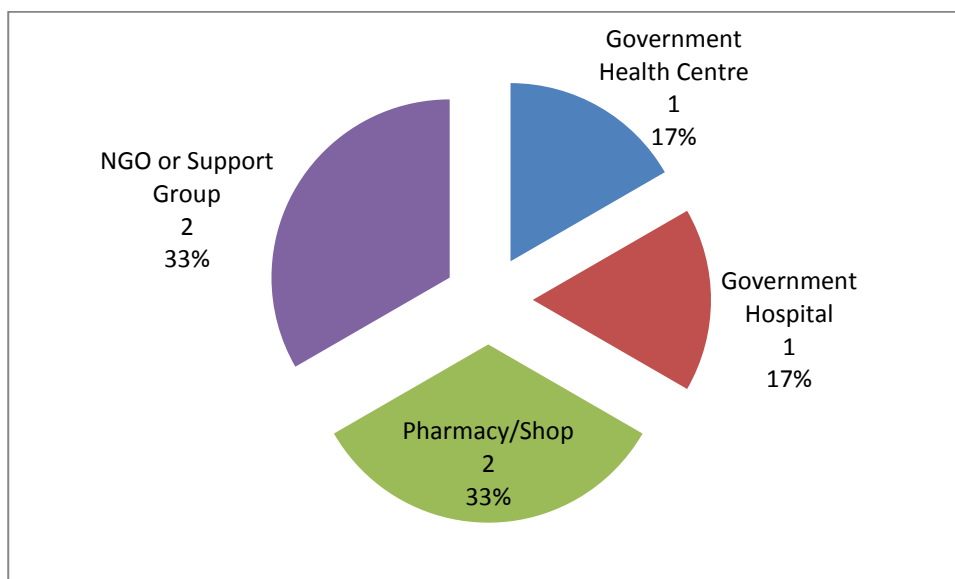
specialist physician, and three (19 percent) to a counselling service. Other referral sites mentioned by participants include health centers or support groups. Thirteen respondents received only one referral.

### c. *Acquiring HIV Prevention Products*

Of the 16 respondents in this survey, seven (44 percent) indicated that they had acquired condoms in the four weeks prior to the survey. Three of these respondents reported having had to pay for the condoms. The average annual expenditure for condoms across the sample was \$86 (88 percent response rate).

Of those who acquired condoms, one respondent did not state where those condoms were obtained. The breakdown, by type of provider, for the remaining six respondents is shown in Figure D-4.

Figure D-4: Acquiring HIV Prevention Products (condoms) by Provider



### d. *Health Insurance Coverage*

None of the 16 respondents in this study had health insurance.

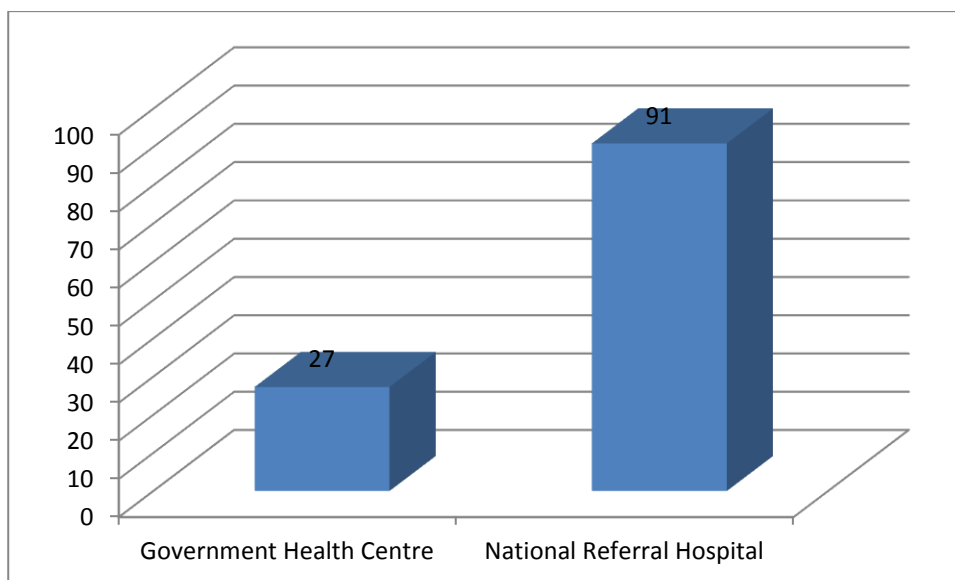
### e. *Outpatient Episodes and Expenditure*

Eleven of the 16 respondents (69 percent) visited one or more outpatient facilities in the four weeks prior to the survey. All of these outpatient visits were to health facilities located in Dominica. Ten of the 11 respondents (91 percent) visited PMH to receive outpatient care and three of the 11 respondents (27



percent) visited a government health center<sup>9</sup>. Figure D-5 shows utilization of these facilities for outpatient care by type of provider in the four weeks prior to the survey.

Figure D-5: Type of Facility Visited for Outpatient Care (% respondents who had at least 1 outpatient care visit)



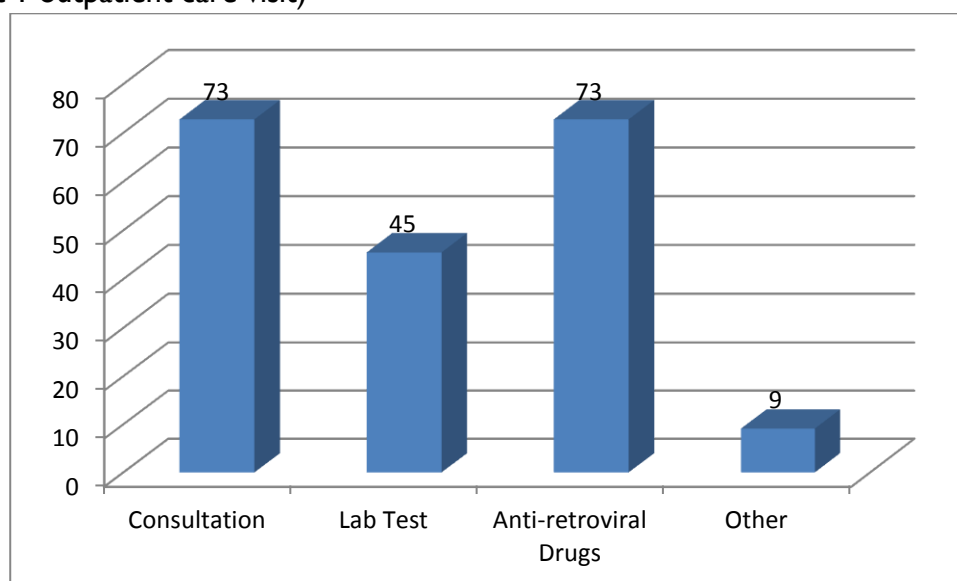
When asked to state what services they received at their last outpatient visit, eight of the 11 respondents (73 percent) reported receiving consultation services (Figure D-6). The same number reported receiving anti-retroviral drugs. Five of the 11 respondents (45 percent) received lab test services and one respondent received a check-up. None of the 11 respondents paid for the outpatient visits<sup>10</sup>.

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<sup>9</sup> Respondents could have visited more than one health care facility in the four weeks prior to the survey. Hence, the percentages may not add up to 100 percent.

<sup>10</sup> Some respondents received more than one service during their outpatient episode(s). Hence, the percentages did not add up to 100 percent.

Figure D-6: Type of Services Received for Outpatient Care (% respondents who had at least 1 outpatient care visit)



*f. Inpatient Episodes*

Two (13 percent) of the 16 respondents in this study had episodes of inpatient care in the six months prior to the survey. One spent 10 nights at a government district hospital and the other spent three nights at an unspecified health facility. Both respondents received consultation services and laboratory tests. The respondent who spent 10 nights at the government district hospital also had surgery and received medication other than antiretroviral or tuberculosis drugs. Neither respondent paid for any of the inpatient services received.

**4. MEASURES OF SOCIOECONOMIC STATUS of HOUSEHOLDS with PLHIV**

*a. Household Conditions and Assets*

The survey revealed that nine of the respondents (56 percent) live in separate single-level houses, five (31 percent) in apartments, and two (13 percent) in separate two-story houses. The reported average number of rooms per dwelling was three (88 percent response rate). The results also show that nine respondents (56 percent) own their homes, two (13 percent) live in rented or leased unfurnished dwellings, and one (6 percent) does not own or rent their dwelling. Three respondents (18 percent) did not indicate the type of tenancy in their dwellings.

Most of the homes of the respondents are furnished with gas stoves (n=15, or 94 percent) and refrigerators (n=11, or 69 percent). Five homes have a DVD player and two have a microwave. Nearly all the respondents (n=14, or 88 percent) have a piped water supply (private or public) into their dwelling.

Electricity is the primary form of energy in those homes. Two respondents (13 percent) have telephone land lines while 15 respondents (94 percent) own a mobile telephone. Seven respondents (44 percent, with an 81 percent response rate) own a computer, 57 percent of whom also have Internet access.

*b. Household Expenditure*

Table D-1 summarizes the annual expenditures of households with PLHIV. It shows that, on average, each respondent's household spent EC\$13,180 in 2013: 52 percent was spent on food; 40 percent on regular expenses such as rent, utilities, telephones, personal care items, entertainment, and cigarettes and alcohol; 7 percent on other large expenses such as education, home and car maintenance, clothing, off-island travel, and weddings; and the remainder on condoms.

**TABLE D-1. AVERAGE ANNUAL SPENDING OF HOUSEHOLDS WITH PLHIV, BY OBJECT OF EXPENDITURE (2013 EC\$)**

| <b>Object of Expenditure</b>  | <b>Annual Average</b> | <b>Response Rate</b> |
|---|-----------------------|----------------------|
| Food  | \$6,854               | 100%                 |
| Other regular expenses (e.g., rent/mortgages, utilities, and entertainment) | \$5,327               | 100%                 |
| Medical Care* (Condoms only)  | \$86                  | -                    |
| Other large expenses (e.g., education, home/car maintenance, and weddings)  | \$913                 | 81%                  |
| Total annual spending   | \$13,180              |                      |

\*Medical care assumes spending on care by PLHIV in household only. Because this average is compiled from many responses, there is no single response rate for this estimate.

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