



Republic of Botswana

NATIONAL HEALTH ACCOUNTS

Financial Year 2007/2008, 2008/2009, 2009/2010



**MINISTRY OF HEALTH
GABORONE**

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NATIONAL HEALTH ACCOUNTS
2007/08-2009/10

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ACRONYMS

ANC	Antenatal Care
ART	Antiretroviral Therapy
ARV	Antiretroviral
BIA	Benefit Incidence Analysis
BOMAID	Botswana Medical Aid Society
BPOMAS	Botswana Public Officers Medical Aid Scheme
BWP	Botswana Pula
CSO	Central Statistics Office
DHMT	District Health Management Team
GABS	Government Accounting and Budgetary Systems
GDP	Gross Domestic Product
ICHA	International Classification of Health Accounts
MGD	Millennium Development Goal
MOH	Ministry of Health
MOLG	Ministry of Local Government
NACA	National AIDS Coordinating Agency
NASA	National AIDS Spending Assessment
NGO	Nongovernmental Organisation
NHA	National Health Accounts
NHE	National Health Expenditure
OOP	Out-of-Pocket
PEPFAR	President's Emergency Plan for AIDS Relief
PMTCT	Prevention of Mother-to-Child Transmission
SADC	Southern Africa Development Community
SWAp	Sector-wide Approach
TB	Tuberculosis
THE	Total Health Expenditure
US\$	United States Dollar
WHO	World Health Organisation

Currency Conversion: Average exchange rate during years studied US\$1=BWP

ACKNOWLEDGMENTS

Interest and enthusiasm for using the National Health Accounts (NHA) to gauge the performance and distribution and use of health finance has been growing over the recent years and Botswana has not been left behind in that regard. This NHA report covering financial years 2007/08, 2008/09, and 2009/10 marks Botswana's second round of NHA. It improves upon the first NHA report, which covered 2000/01, 2001/02, and 2002/03; for example, it is more detailed in the sense that it looks at expenditures of key health programs, such as HIV and AIDS, and maternal and child health.

I would like to take this opportunity to thank all those who contributed to the success of this NHA exercise. Its success is due to the tireless efforts of myriad stakeholders, both within and external to the Ministry of Health (MOH). The individuals mentioned below, respective organisations, and many others were responsible for ensuring that this report is sound and reflects a true picture of health spending in Botswana. Their ideas, inspiration, and wisdom were very invaluable in ensuring success.

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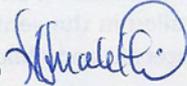
I appreciate the efforts of the Policy and Planning Division of the Department of Health Policy Development, Monitoring and Evaluation led by Ms Naledi Mlaudzi in ensuring and coordinating the NHA exercise. Within the division, many thanks go to Mr. Onkemetse Mathala for leading the NHA Technical Team - Ms Christine Malikongwa (MOH), Ms Relebeng Otsweleng (MOH), Ms Tebogo Selabe (MOH), Ms Eda Selebatso (MOH), Ms Tshepiso Prudence Botsalo (MOH); Ms Lillian K. Thebe (MOH), Messrs. Mooketsi Moalosi (MOH), Benedict Moeng (MOH), Pilate Khulumani (MOH), Lemphi Moremi (MOH), Thatayaone Maxhoo (MOH) and Mmoloki Kethoilwe (MOH); and Ms Adelaide Gower (Ministry of Local Government) and Mr Amantle Baleseng (National AIDS Coordination Agency), throughout the process, and to Ms Jane Alfred for coordinating the writing of this report. Many thanks go to the MOH Research Division for providing technical expertise during the early phases, specifically, for drawing up a sample size for the survey.

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Dr K.C.S. Malefho 
Permanent Secretary, Ministry of Health

EXECUTIVE SUMMARY

BACKGROUND

The Botswana 2010 National Health Accounts (NHA) study was undertaken using data for financial years 2007/08, 2008/09, and 2009/10. Botswana produced its first NHA in 2006 using data for 2000/01, 2001/02, and 2002/03. Since then, a number of changes have taken place in the health system, such as the adoption of user fees exemptions for the elderly and other vulnerable groups, increased numbers of people on antiretroviral therapy, and increased donor support through the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), the Global Fund to Fight AIDS, Tuberculosis and Malaria, and others. Current information on total health financing and expenditures on health care in Botswana is lacking. As such, this NHA was undertaken to provide the most up-to-date information on the country's health financing profile so that stakeholders are able to make informed health financing and health service delivery decisions that will ultimately benefit the population.

The major objectives of the Botswana 2010 NHA study therefore were to:

1. Document total health expenditure (THE) in Botswana;
2. Document distribution of THE by financing sources, financing agents, and health providers;
3. Document the distribution of THE by functions such as prevention and curative services
4. Document the distribution of THE by disease/service category, for example, HIV/AIDS, maternal and child health, and tuberculosis;
5. Document the distribution of resources by level of care; and
6. Analyze the data with regard to efficiency, equity, and sustainability.

NATIONAL HEALTH ACCOUNTS

NHA is an internationally approved framework for gathering actual expenditures on health from all sources: public, private (including households), and donors. It traces the flow of funds from sources to ultimate uses such as providers, line items, functions, and beneficiary groups. Figure ES-1 shows how NHA tracks both the amount and flow of funds within a health system.

**FIGURE ES-1: ILLUSTRATIVE NHA TABLE:
FINANCING SOURCES TO FINANCING AGENTS**

1)	<i>Financing Sources</i>					
Financing Agents	FS.1.1.1 Central Gov. (Ministry of Finance)	FS.3. Rest of the World (Donors)	FS.2.1 Employer Funds	FS.2.2 Household Funds		TOTALS
HF.1.1.1.1 Ministry of Health	A	B				A+B
HF.1.1.1.2 Ministry of Education	C					C
HF.2.2 Private Insurance Enterprises			D	E		D+E
HF. 2.3 Private households' out-of-pocket payment				F*		F*
TOTALS						G
2)	<i>Financing Agents</i>					
Providers	HF.1.1.1.1 Ministry of Health	HF.1.1.1.2 Ministry of Education	HF.2.2 Private Insurance Enterprises	HF.2.3 Households		TOTALS
HP.1.1.1 Public General Hospitals	W		X			
HP.1.1.2 Private General Hospitals		C		F		
HP.3.4.5.1 Public Outpatient Clinics			Y			
	W=A+B	C	X+Y=	D+E	F	G

Countries worldwide have used NHA to inform policy decisions such as projections of resource needs and to monitor and evaluate the effects of those decisions on health systems goals such as equity, efficiency, and sustainability.

METHODS AND DATA SOURCES

The Botswana 2010 NHA was conducted using data for 2007/08, 2008/09, and 2009/10. Data were collected from all sources of health and HIV/AIDS financing, such as the Ministry of Finance and Development Planning, district councils, private firms and parastatals, households, public and private health insurance schemes, and donors. Data also were collected from all institutions receiving and controlling/managing financial resources for health and HIV and AIDS, such as the Ministries of Health and Defence and nongovernmental organisations (NGOs).

FINDINGS

The results of the Botswana NHA 2010 show a 30 percent increase in THE, from more than BWP 4.0 billion (US\$660.8 million) in 2007/08 to nearly BWP 5.3 billion (US\$789.9 million) in 2009/10. It also shows the growth of health expenditure as percentage of the gross domestic product (GDP), from 5.3 percent in 2007/08 to 6.3 percent in 2009/10. This translates to a per capita THE of US\$380.53 in 2007/08 and US\$444.66 in 2009/10. This is one of the highest rates of spending on health among Southern Africa Development Community (SADC) countries and countries of the World Health Organisation (WHO) Africa region.

TABLE ES-I: SUMMARY OF NHA FINDINGS

Variable	Financial Year			
	2007/08	2008/09	2009/10	Average for All Years
Total expenditure on health (THE) (BWP)	4,053,728,794	4,441,961,905	5,269,770,982	4,588,487,227
Total government expenditure on health (BWP)	2,727,415,338	3,039,162,704	3,588,505,498	3,118,361,180
Per capita THE (at average US\$ exchange rate)	380.53	374.03	444.66	399.74
THE as a % of GDP	5.30%	4.80%	6.30%	5.50%
Government spending on health as % of GDP	3.60%	3.30%	4.30%	3.70%
Government expenditure on health as a % of THE	67.30%	68.40%	68.10%	67.90%
Government per capita THE (at average US\$ exchange rate)	256.03	255.91	302.8	271.6
Government total expenditure on health as a % of total government expenditure	18.50%	16.70%	17.80%	17.70%
National expenditure on health (BWP)*	4,338,523,390	5,076,558,584	5,492,072,694	4,969,051,556
Per capita national expenditure on health (at average US\$ exchange rate)	407.27	427.47	463.42	432.7
Total private expenditures as a % of THE	18.70%	19.00%	24.00%	20.60%
Household expenditure on health as a % of THE	13.0%	9.3%	18.50%	13.60%
Out-of-pocket expenditure on health as a % of private expenditure on health	20.8%	27.80%	28.90%	25.80%
Out-of-pocket spending as % of total health spending	3.9%	4.2%	4.4%	4.2%
Out-of-pocket per capita expenditure on health (at average US\$ exchange rate)	14.70	15.54	19.74	16.66

* National health expenditure refers to total expenditure on activities whose primary purpose is to improve, maintain, or restore the health of an individual or population (core health care functions) plus expenditure on activities which may overlap with other fields such as education, overall social expenditure, and research and development (health care-related functions).

DISTRIBUTION OF THE BY FINANCING SOURCE

As Figure ES-2 shows, the government of Botswana is the major source of health funds, accounting for 67.3 percent of THE in 2007/08, 68.4 percent in 2008/09, and 68.1 percent in 2009/10; the average for the three years was 67.9 percent. Private sources came second at an average of 20.6 percent, while donors contributed an average of 11.5 percent.

FIGURE ES-2: DISTRIBUTION OF THE BY FINANCING SOURCE, 2007/08-2009/10

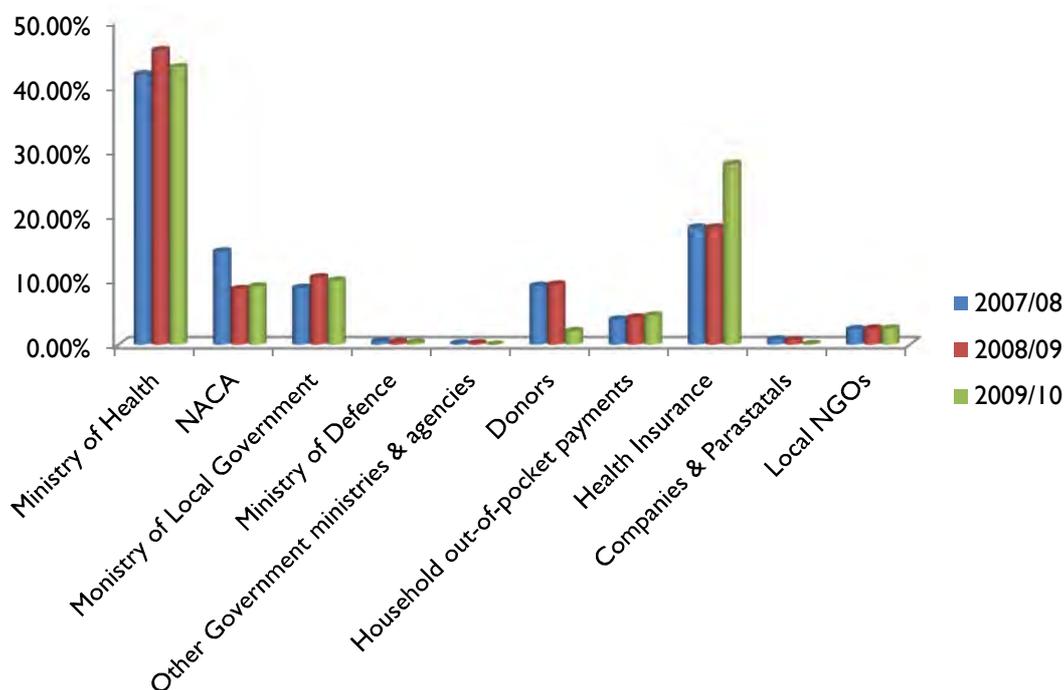


Because the government is the major source of health funds, it could be said that the Botswana health system is highly sustainable. However, serious problems could arise if there are external shocks to the macroeconomic environment, as Botswana heavily relies on external trade of minerals and agriculture products. As such, there is a strong need to develop alternative health care financing mechanisms such as social health insurance for the formal sector, community financing schemes for the informal sector, and medical savings accounts. This study also found that households are the major source of the private health funds (65 percent) through their contribution to medical aid schemes, while private companies and parastatals contribute an average of 35 percent. These findings reinforce the government's desire to introduce social health insurance such that all employers are mandated to provide health insurance for their employees and fund other health care activities as part of their social responsibility.

DISTRIBUTION OF THE BY FINANCING AGENT

A financing agent is an entity that controls or manages health funds received from financing sources. The major financing agent in Botswana was the Ministry of Health (MOH), which controlled an average of 43.6 percent of THE during the period under review (Figure ES-3). Medical aid schemes such as Botswana Medical AID (BOMAID) and PULA (a scheme named after the Botswana currency) were the second major financing agent, managing an average of 11.3 percent of THE. The National AIDS Coordinating Agency (NACA) came in third, controlling about 10.8 percent. Household direct out-of-pocket (OOP) payments averaged 4.2 percent. This is one of the lowest levels of direct household OOP spending in the WHO Africa Region and around the globe. Such a low level of OOP spending on health care means that health spending is unlikely to be catastrophic or an obstacle that denies the poor access to health care services.

FIGURE ES-3: DISTRIBUTION OF THE BY FINANCING AGENT, 2007/08-2009/10



As shown in Table ES-2, the majority of private health funds (85 percent) is managed by private health insurance schemes known as medical aid schemes. It should be noted that in a country like Botswana, with its small population, these multiple health insurance schemes often represent a duplication of effort, increased administrative and information systems costs, and inequities in access to and utilisation of health care services. Thus it could be ideal to pool them into a single social health insurance scheme.

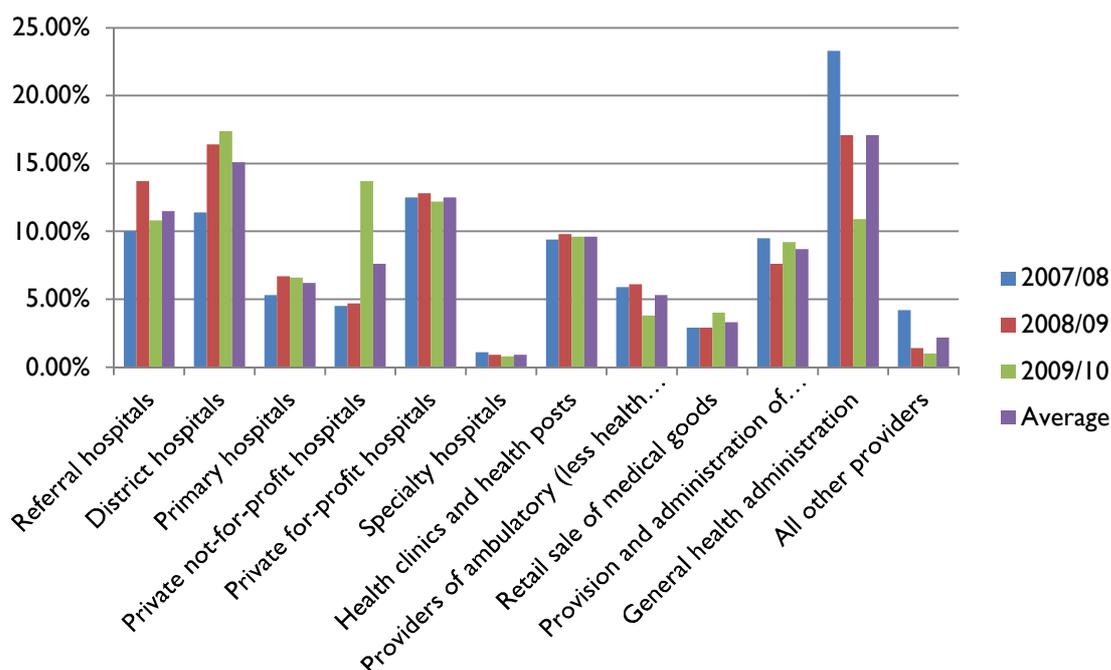
TABLE ES-2: FINANCING AGENTS OF PRIVATE HEALTH FINANCING, 2007/08-2009/10

Financing Agent	2007/08	2008/09	2009/10	Average 2007/08-2009/10
Private social insurance (Botswana Public Officers Medical Aid Scheme - BPOMAS)	33.6%	31.9%	49.1%	38.2%
Other private insurance (Medical aid schemes - BOMAID, PULA)	38.4%	39.3%	30.8%	36.1%
Non-for-profit institutions serving households (National NGOs)	9.4%	9.8%	7.1%	8.8%
Private employers (firms and corporations) (other than health insurance)	3.3%	2.7%	0.3%	2.1%
Total risk pooled	84.7%	83.7%	87.3%	85.2%
Household out-of-pocket payments	15.3%	16.3%	12.7%	14.8%
Total	100%	100%	100%	100%

DISTRIBUTION OF THE BY TYPE OF PROVIDER

Overall, general hospitals are the provider that receives the greatest proportion of THE, an average 53 percent, in the 2007/08-2009/10 period (Figure ES-4). Among general hospitals, district hospitals are the largest recipient, consuming an average of 15.1 percent of THE, and referral hospitals are second, at an average of 11.5 percent. General health administration, as a provider of administration services, is second overall, at an average of 17.1 percent of THE. Providers of preventive and public health programs receive an average of 8.7 percent.

FIGURE ES-4: DISTRIBUTION OF THE BY TYPE OF PROVIDER, 2007/08-2009/10



With the majority of resources received by hospitals and fewer resources going to providers of prevention and public health programs, the Botswana health system can be described as hospital based. Looking at Botswana's epidemiological profile, which is dominated by communicable diseases, the majority of which could be prevented with simple and inexpensive interventions at community level, there is need to shift some resources toward lower-level primary facilities and providers of prevention and public health programs.

Figure ES-4 also shows that there was a huge increase in private not-for-profit hospital spending in 2009/10; this is attributable largely to the increase in private social health insurance, whose spending was mainly on such hospitals. In addition, there was a huge drop in expenditures on general administration of health care in 2009/10, mainly a result of restructuring some of the general administration functions at the MOH.

DISTRIBUTION OF THE BY HEALTH CARE FUNCTION

Over half of THE (58.6 percent) during the period under review was spent on outpatient and inpatient curative care services (Table ES-3). General health administration as a function came second at an average of 12.5 percent of THE, while spending on capital goods came third at an average of 11.2 percent. Prevention and public health services as a function consumed only 8.6 percent. This level of spending is not in line with the primary health care principle adopted by the Botswana government.

TABLE ES-3: DISTRIBUTION OF THE BY FUNCTION, 2007/08-2009/10

Health Care Function	2007/08	2008/09	2009/10	Average 2007/08-2009/10
Services of curative	55.30%	64.00%	56.60%	58.60%
Inpatient	27.10%	34.90%	30.70%	30.90%
Outpatient	28.20%	29.10%	25.90%	27.70%
Services of rehabilitative care	0.40%	0.60%	0.60%	0.50%
Prevention and public health services	9.50%	7.30%	9.10%	8.60%
Health administration and health insurance	14.00%	16.20%	7.40%	12.50%
Capital formation of health providers	13.00%	3.80%	16.70%	11.20%
All other health care functions	7.90%	8.10%	9.60%	8.50%

Comparing health spending in Botswana with that of other countries, the Botswana health system spent appreciably more than the SADC and WHO Africa region averages (Table ES-4). In terms of health spending per capita and achievement of the Abuja target, Botswana is second in the SADC region, which is a great achievement that should be commended. However, although Botswana spends more on health than the SADC countries of Mauritius and Namibia, these two countries have better health outcomes than Botswana. This is not surprising as the health of an individual or population is a function of many variables (income, education, housing conditions, environment, etc.) of which health care is just one. Related to this is the fact that the efficiency with which health systems in different countries converts inputs into outputs and then into health outcomes is different. These factors make it clear that countries with similar GDPs or similar health spending levels and allocations between services, geographic areas, and so forth could produce completely different health outcomes.

Thus, it is advisable that health financing decisions/policies should be made after thorough diagnosis of the current local situation – among others the epidemiological profile of the country, desired level of health status, cost-effectiveness of health interventions and health inputs that would be purchased at existing prices, values attached to equity, efficiency of the health system, and relative value and cost of other demands on social resources. Simply copying and pasting other countries ways of financing health should be avoided.

TABLE ES-4: HEALTH EXPENDITURES AND HEALTH OUTCOMES AMONG SADC AND OTHER SELECTED COUNTRIES, 2009*

Country	THE Per Capita (US\$)	Infant Mortality Rate (%)	Maternal Mortality Ratio/100,000 Live Births	Life Expectancy
Angola	203.18	98	610	52
Botswana	444.66	43	190	54.4
Lesotho	70.05	61	530	48
Malawi	19.07	69	510	47
Mauritius	377.5	13	36	73
Mozambique	27.06	96	550	49
Namibia	257.97	34	18	57
South Africa	485.43	33	410	54
Swaziland	155.78	52	420	49
United Republic of Tanzania	25.31	68	790	55
Zambia	60.61	56	470	48
Average WHO Africa Region 2008	84	85	900	53
Average WHO Euro Region 2008	2169	12	27	75
Singapore	1501	2.3	14	81
United Kingdom	3285	6	8	80
USA	7410	26	11	78

*Figures for 2009 except where noted.

POLICY IMPLICATIONS/RECOMMENDATIONS

- **More than adequate total health resources, in particular, resources funded and managed by the public sector, to fund a minimum package of cost-effective interventions:** Much as raising additional revenues options could be pursued, inadequacy of resources is not a major challenge in the Botswana health system. Instead, the government needs to seriously address issues of efficiency and equity in resource allocation between levels of care, functions, and so forth.
- **Government is a major source of health funds through general tax revenues, in particular international trade, which is vulnerable to external shocks:** Government needs to investigate the potential and feasibility of developing alternative financing mechanisms for health such as social health insurance and medical savings accounts, and sustain the “sin taxes” on alcohol and tobacco and earmark them for health.
- **Low contribution to THE by employers (private companies and parastatals):** To improve sustainability and equity, employers should increase their contribution to health through establishment of mandatory health insurance for the formal sector and provision of onsite health facilities for employees and dependents’ benefits, and by lobbying with employers to fund more health activities as part of their social responsibility.
- **Multiple health insurance schemes serving different sectors and population groups:** To improve efficiency, risk pools should be consolidated into one pool, to avoid duplication of effort and costs of duplicate administration and information systems. This could be the starting point for establishing a social health insurance scheme.
- **Donor funding of NGOs off budget:** To improve efficiency, effectiveness, and sector coordination, Botswana should establish a sector-wide approach with pooled or discreet funding and a common planning, and monitoring and evaluation framework.

- **The majority of health resources consumed by hospitals and providers of general health administration:** Government and all stakeholders need to seriously consider reallocation of health resources to primary health care facilities and services and in particular to providers of prevention and public health programs.
- **The majority of resources spent on curative health care services and general administration with little spent on prevention and public health services:** There is a strong need to examine the organisation of prevention and public health services programs and thereafter reallocate resources to prevention and public health services.
- **Centralised MOH budgeting and resource allocation:** There is a need to create separate cost centres for each referral hospital, district hospital, primary hospital, and headquarters and develop a resource allocation formula that takes into account the health needs of different population groups weighted by other factors that affect service delivery.
- **Reluctance of stakeholders to provide health expenditure data:** Government through the MOH should sensitise health stakeholders to the relevance of NHA in health policy design and monitoring and evaluation of health services and programs, and develop legislation that mandates stakeholders to provide health expenditure data.

RECOMMENDATIONS FOR FURTHER ANALYSIS

The NHA findings point to potential equity and efficiency problems and opportunities that merit further analysis to guide policy solutions.

1. Benefit incidence analysis (BIA) is an analytical tool to examine which segments of a population benefit from health care expenditures. BIA computes the distribution of public and donor expenditures across different demographic groups, such as income groups, or by gender. BIA can reveal how effectively governments/donors are able to target their limited resources toward meeting the needs of specific target groups, such as the poor.
2. Fiscal space analysis measures the availability of budgetary room that allows the government to provide resources for a desired purpose (such as health) without prejudice to the sustainability of the country's financial position. This analysis would be expected as part of assessing the feasibility of a national health insurance program.
3. Productivity analysis of outpatient facilities gauges the severity of the bypassing problem and its implications for efficiency. Are there some low-quality, empty public facilities that represent such a drain on limited government resources that some should be considered for closure or lease to a private provider?

CONCLUSION

The Botswana 2010 NHA results show that government is the major source of health financing in Botswana and its role in health financing increased substantially during the period under review. Private sources are the second largest source of health funds with donors coming last. The MOH manages the majority of health funds, which means that it has a big role to play in ensuring that resources are efficiently and equitably distributed. In addition, hospitals consume the greatest proportion of THE. Hospital-based curative care is an inefficient allocation of resources – it is much more expensive than primary health care, and most of the health conditions attended to at hospitals could be served at primary-level facilities. Similarly, curative care is more expensive than preventive care. For both of these reasons, there is need to reallocate more of the resources in the Botswana health system to the primary health care level (currently 15 percent of THE) and to prevention and public health services (currently 8.7 percent of THE).

I. INTRODUCTION

The Botswana health system faces the challenges of improving health care financing and delivery and ultimately enhancing the health status of the population. Technological advances, demographic transitions, rapidly changing patterns of morbidity and mortality, and the emergence of public health problems such as HIV/AIDS all call for raising additional resources and more efficient allocation and use of resources. These issues have been clearly outlined in the draft revised Botswana National Health Policy (MOH 2010).

However, at the time the policy was being drafted, Botswana lacked current data on total spending in its health sector, as well as who was providing financial resources, how much each financing source was providing, what the funding was being spent on, and so forth. Without such information, there was no evidence base from which to prioritise among health care objectives, evaluate alternative ways of raising finance and allocate resources, and develop efficient and effective ways of providing health services. Lack of an evidence base also meant that the proposed health financing reforms in the National Health Policy 2010 might not successfully address the need to generate additional revenue and realise better value for money from health sector spending. Related to this is the fact that raising and allocating funds should aim to maximise the benefits to society, that is, improve both allocative and operational efficiency. The mechanisms and strategies aimed at achieving the desired health objectives should be cost-effective and equitable, especially in this decade of inadequate resources and 'health care cost explosion.' Thus conducting regular health expenditure studies in Botswana is vital to determining the optimal use of resources in the health system, an essential element in health care monitoring and evaluation.

National Health Accounts (NHA) is a globally accepted framework for measuring the total expenditure on health (THE) and for tracking the flow of funds in a country's health system. NHA tracks total public, private, and donor expenditures and links sources of funds to service providers and ultimate uses.

NHA provides comprehensive information on the financial status of a health system at a particular period. It seeks to answer questions such as: 'Who pays and how much is paid for health services?' How are resources mobilised and managed for the health system? Who provides health goods and services and what magnitude of resources do they use? How are health care funds distributed across the different services (e.g., prevention, treatment, care, and rehabilitation), interventions, and activities that the health system produces? How are the health funds distributed across the different inputs (e.g., human resources for health, pharmaceuticals and non-pharmaceutical supplies, equipment, buildings, vehicles, maintenance)? Who benefits from health care expenditure (e.g., by income group, age/sex, geographical region).

Because NHA focuses on actual expenditure rather than on budgeted amounts, and NHA exercise provides data that are critical to optimizing resource allocation. Expenditure allows for a more specific assessment of how much is spent on health care by a country and thus facilitates identification and tracking shifts in resource allocations, comparison of findings with other countries and assessment of equity and efficiency in a dynamic health sector environment. In contrast, the budget does not reflect how much money actually goes into the health system, as budgeted funds may not be spent as intended.

I.1 OBJECTIVES OF BOTSWANA NHA STUDY

Botswana conducted its first NHA in 2004 and 2005 (with findings published in 2006); the study covered financial years 2000/01, 2001/02, and 2002/03. This second NHA round covers 2007/08, 2008/09, and 2009/10. The overall objective of estimating THE was to obtain data that will assist

Botswana's health policymakers in their efforts to understand the health system and improve its performance by assessing its efficiency, equity, and sustainability; to monitor health expenditure trends; and to use globally accepted indicators to compare the country's health system performance with that of other countries.

Specific objectives were to:

1. Document THE in Botswana;
2. Document distribution of THE by financing sources, financing agents, and health providers;
3. Document distribution of THE by functions such as prevention and curative services
4. Document distribution of THE by disease/service category, such as HIV/AIDS, maternal and child health, and tuberculosis (TB)
5. Document the distribution of resources by level of care; and
6. Analyze the data with regard to efficiency, equity and sustainability.

I.2 STRUCTURE OF THE REPORT

The report presents the findings of the Botswana 2010 NHA study covering financial years 2007/08-2009/10. Chapter 2 gives a brief profile of the country's economy, socioeconomic profile, and health system. Chapter 3 summarises Botswana's health financing system and explains the NHA methodology and its uses and highlights major policies that impact health service delivery and health financing in Botswana. Chapter 4 presents an account of methods applied in conducting the study including assumptions and techniques used to fill the data gaps. Chapter 5 details NHA findings for each NHA dimension. Chapter 6 highlights the main findings and policy implications arising from the analysis of the findings, and proposes appropriate policy recommendations.

2. BOTSWANA'S SOCIAL STRUCTURE, ECONOMY, AND HEALTH SYSTEM

It is important to evaluate the current status of a country's health system within the context of the overall policy, political, and socioeconomic environment. This chapter therefore provides an overview of Botswana's administrative, political, and social system, and macroeconomic and socioeconomic indicators. It highlights the country's economic growth prospects, which have an impact on the health system. The organisation of the health system and access to health services is also reviewed.

2.1 SOCIOECONOMIC PROFILE

Botswana is a semi-arid, landlocked country of 581,730 square kilometers (sq. km) situated in the centre of southern Africa. It shares borders with South Africa (to the south and east), Namibia (west), Zimbabwe (east), and Zambia (north). The Okavango River flows from Angola through Botswana creating the Okavango Delta (swamp) in the Okavango District. The delta fills Lake Ngami and the Thamalakane River in Ngamiland and Chobe River in the Chobe District. The most common natural hazards include drought, floods, and veldt fires.

The country has a relatively small population, estimated in 2008 at 1,802,959 (CSO 2008), giving a total population density of three persons per sq. km and making Botswana one of the most sparsely populated countries in the world. There is an uneven distribution of the population geographically, with the four western districts (Kgalagadi, Ghanzi, Ngamiland, and Chobe) accounting for 61 percent of its surface area but only 13 percent of the population and a collective population density of 0.6 persons per sq. km. Approximately 34 percent of the population is under the age of 15 years and 6 percent is older than 65 years. Just over a quarter (27 percent) of the total population are women of child-bearing age while children under five years constitute 12 percent of the population. The annual population growth rate is 2.4 percent (CSO 2006a) and the total fertility rate is 2.9 (CSO 2007a).

There is universal primary education in Botswana, which has raised the national literacy rate to 81.2 percent (2003/04), with a slightly higher literacy rate for females 81.8 percent than males 80.4 percent (CSO 2003). Despite the reduction of school dropouts between 2005 and 2006 (by 14.8 percent and 5.1 percent for primary and secondary schools, respectively), the rate of school dropouts is still significant – mainly due to desertion, pregnancy, and illness (CSO 2006b).

An estimated 96,125 people are living with disabilities and may experience social exclusion (CSO 2006a). The number of registered orphans has increased over the years mainly as a result of the HIV/AIDS epidemic. The number of orphans for the whole country was 41,592 at the end of December 2003, and rose to 48,997 by the end of July 2008 (reports from 21 out of 27 districts).

Although most of the people live in habitable housing, a sizeable number live in poor housing conditions. By 2006, 90 percent of the rural and 100 percent of urban population respectively had access to a safe water supply, while only 30 percent and 60 percent had improved toilet facilities and sanitation, respectively (CSO 2006a).

Botswana is capable of producing and importing enough food to ensure food security for every person. However, the skewed distribution of resources has resulted in over-nourishment and under-nourishment in different segments of the population.

2.2 MACROECONOMIC ENVIRONMENT

Botswana had a total gross domestic product (GDP) of BWP 24.75 billion, BWP 25.52, and BWP 24.59 for 2007/08, 2008/09, and 2009/10, respectively (in 1993/94 constant prices). These represent a GDP per capita of BWP 14.25, BWP 14.54, and BWP 13.84 for the three years. According to Botswana Financial Statistics (CSO 2011), the composition of the 2009 GDP was dominated by mining, at 30.3 percent; general government (central and local government) services, at 17.7 percent; banks, insurance and services, at 12.8 percent; and trade, hotels and restaurants, at 11.3 percent. The remaining sectors of agriculture, manufacturing, construction, and other were less than 10 percent.

The overall unemployment rate for 2005 was 17.6 percent, but the rate was higher among the youth. Nineteen percent of the population depended on some type of welfare program. Vulnerability to poverty has some distinctive features (Republic of Botswana 2010). Rural areas, particularly in the southwestern part of the country, and remote areas in general are most vulnerable to poverty. This is because of inferior resource endowment and relative isolation from the mainstream economy. The elderly, children, and infirm also experience heightened vulnerability due to deficiencies in education, skills, and health.

While Botswana has an impressive GDP, it is a challenge for the health system to ensure universal access to quality promotive, preventive, curative, and rehabilitative health services among the economically disadvantaged populations.

2.3 EPIDEMIOLOGICAL PROFILE

The life expectancy at birth in Botswana is estimated at 54.4 years (48.8 males, 60.0 females). The crude birth and crude death rates are estimated at 29.7 and 11.2 per 1,000, respectively, while infant and under-five mortality rates are 57 and 76 per 1,000 live births, respectively (CSO 2007a). The maternal mortality ratio is 193 per 100,000 live births based on the CSO 2007a calculations. A quarter (25.9 percent) of children under five are stunted, of which 16.8 percent are moderately stunted and 9.1 percent severely stunted (CSO 2007a).

Both morbidity and mortality for all ages are still dominated by infectious diseases with HIV/AIDS and other communicable diseases causing about half of the deaths. An effective antiretroviral therapy (ART) program has reduced mortality due to HIV/AIDS over the past four years, but HIV is still a major concern.

The infant mortality rate and under-five mortality rate remain high with year-on-year fluctuation. More than two-thirds of these deaths are due to communicable diseases, with diarrhea and pneumonia being the two main killers. More than 40 percent of infant deaths are in the first week after birth. The maternal mortality ratio also fluctuates. Although non-communicable diseases like hypertension and diabetes are not among the top 10 causes of disease morbidity and mortality, the rates are increasing. Of these, cardiovascular and cancers have been increasing alarmingly over the last decade (MOH 2009a).

2.4 HEALTH POLICY AND ORGANISATION OF HEALTH SERVICES IN BOTSWANA

In order to exercise its stewardship role, the Government of the Republic of Botswana developed the Vision 2016 (1995); National Development Plans; draft revised National Health Policy (2010); the Private Hospitals and Nursing Homes Act and the Medical, Dental and Pharmacy Act (2001); and the Ministry of Health Corporate Performance Plan (2011) and the Integrated Health Service Plan (2010) to guide health system development.

The government has invested a lot in infrastructure development, especially at the primary health care level. The health care system is pluralistic with the majority of health care being provided by government through an array of health care facilities run through district health management teams

(DHMTs). There are currently three public referral hospitals, nine district hospitals, 17 primary hospitals, 104 health clinics with beds, 173 health clinics without beds, 349 health posts, and 856 mobile posts. Given the spread of these facilities, 95 percent of the population lives within 8 km of the nearest health facility.

2.4.1 HEALTH SYSTEM DELIVERY AND STRUCTURES

Health service delivery in the country is pluralistic. There are public, private for-profit, private not-for-profit, and traditional medicine practices. Within the public sector, the Ministry of Health (MOH) is responsible for the provision of health services.

The Ministry of Health

The MOH is responsible for the overall oversight and delivery of health services. It is mandated to do the formulation of policies, regulations and norms, and standards and guidelines for health services. It is also a major provider of health services through a wide range of health facilities and management structures. In 2007/08, the MOH introduced exemptions in the payment of user fees in all public health facilities in order to provide access to and promote the utilisation of health care services by all citizens so as to reverse the inequities created by the introduction of user fees. The DHMTs are responsible for day-to-day management of health facilities in their respective health districts.

Other Service Providers and Facilities

There is a limited number of public sector health care services for targeted groups such as the Botswana Defence Force, police, and prisons services. In the formal private sector, there are a number of private practitioners, health facilities operated by mining companies, and nongovernmental organisation (NGO) and mission facilities. An informal system of traditional health practitioners exists. Although traditional medicine is widely used, there is no regulatory framework governing the practice.

Regulation of the Health Sector

The public health services in Botswana are regulated by the Public Health Act 2002 (Chapter 63:01). However, with changes in both the epidemiological scenario and the technological advancements, the act is outdated therefore is under revision. For both the public and private sector, professionals are licensed by professional councils in accordance with the Medical, Dental and Pharmacy Act and the Nurses and Midwives Act. In addition to the professional licensure, the MOH is also responsible for the registration of private facilities through recognised standards.

2.4.2 ACCESS AND UTILISATION OF HEALTH SERVICES

As noted above, 95 percent of the total population (89 percent of the rural population) live within 8 km of a health facility (CSO 2007b). The public sector is the predominant provider of health care services in Botswana, with more than 80 percent of the people receiving care from public facilities and programs (CSO 2006a).

There is considerable disparity in the way health facilities are utilised. Some primary hospitals are used more than district hospitals although there are fewer health workers in primary hospitals (MOH 2009b). Although Botswana had achieved a national average of 2.06 beds per 1,000 population by 2009, there is marked geographical inequality in distribution of the beds. This contributes to the underutilisation of available facilities in some areas. In addition, the bed occupancy levels in 82 percent of the hospitals and the average length of stay levels in 69 percent of hospitals are outside the optimal range (more than 70 percent) for developing countries (MOH 2008).

Access to health facilities does not always translate into use of high-impact interventions. For example, insecticide-treated net use among pregnant women is at 15.4 percent while chemoprophylaxis against malaria is 50 percent. Although antenatal care coverage is around 90 percent, tetanus toxoid 2+ (TT2+) utilisation among the same women is only 33 percent. However,

in the context of providing services as a package, the lowest coverage of the high-impact interventions is expected to be not less than 80 percent.

Progress toward Achieving Millennium Development Goals

Since 2004, Botswana has made significant progress towards meeting the Millennium Development Goals. The target of reducing by half the number of people living below the poverty datum line by 2015 is likely to be achieved as there has been a significant reduction of poverty. The percentage of people living below the poverty datum line has declined from 47 percent in 1993 to an estimated 30 percent in 2002 and again to an estimated 23 percent in 2009 (Republic of Botswana 2010).

There has also been a noted decline in HIV prevalence among 15-19 and 20-24 year old pregnant women, which shows the effectiveness of government interventions to reduce HIV. The coverage for maternal and child health interventions such as immunisations, antenatal and postnatal care, complementary feeding, and prevention of mother-to-child transmission of HIV (PMTCT) has been increasing over the years.

2.5 SUMMARY

In terms of GDP per capita, the economy of Botswana is in good shape, but this level of development does not necessarily translate into better health and welfare of the Botswana population. The level of economic growth has helped the country improve its health infrastructure, thereby improving access to health facilities and services.

3. HEALTH FINANCING AND NATIONAL HEALTH ACCOUNTS

3.1 HEALTH FINANCING SYSTEM

According to the World Health Organisation (WHO) (2000), health financing is concerned with the three functions of revenue generation, pooling of funds, and purchasing or allocating funds to health care providers. Wedent et al. (2009) termed health financing one of the three major dimensions that are used for distinguishing a health care system. The study of health financing continues to gain popularity as it provides a basis for analyzing and comparing the performance of the health systems and subsequently informing health care reforms (Mossialos et al. 2002). Decision making on how to raise sufficient funds, pool them, allocate them equitably, and use them efficiently requires reliable and timely information on the amount and trends of health sector financing, and its sources and uses. NHA is a powerful tool that provides such information and thus is useful for guiding the development of national policies and strategies for effective health financing and additional revenue generation for the provision of health care services.

Historically, two types of health care systems based on their funding models have been described globally: the Beveridge model and the Bismarkian model (Mossialos et al. 2002). Recently, a third model, described as the market type model, was introduced.

- In the **Beveridge model**, revenue is raised through general taxation.
- In the **Bismarkian model**, revenue is raised through a system of compulsory social insurance. The model differs from the general taxation model in that the revenue generated is hypothecated (earmarked) specifically for health care (Robinson 2006).
- The **Market model** is likened to a commodity market, whereby revenue generation and other modalities are determined by the forces of demand and supply. In this model, the health system is funded essentially by individuals and/or employers and there are no contributions from general taxation or social security funds, that is, it is a predominantly private insurance-financed health system, either employer- or individual-based. Thus, it is referred to as the consumer sovereignty model (Blank and Burau 2007).

In the real world, no country has a single model of health care funding; instead, countries around the globe finance health care through a mix of tax-based funding, forms of insurance, and other government revenues from sources such as the extractive sector. Botswana has such a hybrid health care funding model although government financing through general taxation (the Beveridge model), predominates.

3.2 NATIONAL HEALTH ACCOUNTS

3.2.1 DEFINITION

NHA is a tool for health sector management and policy development that measures total public (all relevant sectors), private (including households, enterprises, NGOs), and donor (rest-of-the-world) health expenditures. NHA describes the flow of funds in a health system. It consists of a set of tables presenting various aspects of a nation's health expenditure. Its distinguishing features include (WHO et al. 2003: 2):

- A rigorous classification of the types and purposes of all expenditures and of all the actors in the health system;

- A complete accounting of all spending for health, regardless of the origin, destination, or object of the expenditure;
- A rigorous approach to collecting, cataloguing, and estimating all those flows of money related to health expenditure; and
- A structure intended for ongoing analysis (as opposed to a one-time study).

3.2.2 USES

NHA tracks all expenditure flows from the sources of funds to financing agents, service providers, public health functions and inputs. Most importantly, NHA is a useful tool that is used to:

- Contribute to health policy process as it allows for a better informed health policy decision.
- Provide an international standard for comparison of health care spending patterns across different countries.
- Inform donor funding decisions.
- Answer questions such as:
 - Who pays and how much is paid for health? NHA can be used to assess who finances health care and how much is paid for health, thus providing an indication of who bears financial burden in health financing and the degree of financial protection
 - How resources are mobilised for the health system; assess the resources available in the health sector and explore other mechanism for raising and pooling funds as well as purchasing health care services.
 - Who are the important actors in health financing and health care delivery and how significant are they in terms of THE? NHA shows the distribution of health expenditure across different entities, and between health care providers and health care seekers, and therefore are a useful tool for informing health care reforms. NHA provides information on how/how much funding flows among all actors in the health care system.
 - How are health funds distributed across different services, interventions and activities of the health system? NHA provides information on the commitment of health care resources across different services (e.g., preventive vs. curative), programs/interventions (e.g. HIV/AIDS vs. maternal health), inputs (e.g., human resources for health, pharmaceuticals and non-pharmaceutical supplies, equipment, buildings, vehicles, maintenance) and thus is useful for informing policies on resource allocation.
 - Who benefits from health expenditure? Equity or fairness in health care provision is critical for every health system. In health care resources allocation, it is critical that each individual in the population receives the same share of health expenditure. NHA is relevant for assessing equity (fairness) in the distribution of health care funds as it gives a measure of who benefits from health expenditure (WHO et al. 2003).

3.2.3 HEALTH FINANCING IN BOTSWANA

Recognizing the value of NHA data to health financing policy development, Botswana did its first NHA in 2004 and 2005 for the years 2000/01, 2001/02, and 2002/03 (see MOH 2006). The findings from this NHA revealed that health services are financed through a mix of government funding, mainly through general taxation, households funding through direct out-of-pocket (OOP) payments for medical goods and services and copayments, private insurance (medical aid schemes) premiums and copayments, donor funding through bilateral and multilateral agreements, and employer funding through medical coverage for private health insurance and provision of workplace health services for employees.

Figure I, the structure of Botswana’s health financing system, illustrates these findings.

Generating revenue: Is mainly from general taxation through the government, households’ direct OOP payments for medical goods and services, employee and employer premiums and copayments for public and private insurance (medical aid schemes), and donor funding through bilateral and multilateral agreements.

Pooling of health funds: Is mainly done by the government (both at central and local levels), the public medical aid scheme (BPOMAS), and private medical aid schemes: Botswana Medical Aid (BOMAID), PULA (named after the Botswana currency), Itekanele, and Botsogo.

Purchasing of health services: Is done by the government (both at central and local levels), public medical aid scheme (BPOMAS), private medical aid schemes (BOMAID, Pula, Itekanele, and Botsogo) and individuals.

Providing services: Is pluralistic, done by public, private, and private not-for-profit providers.

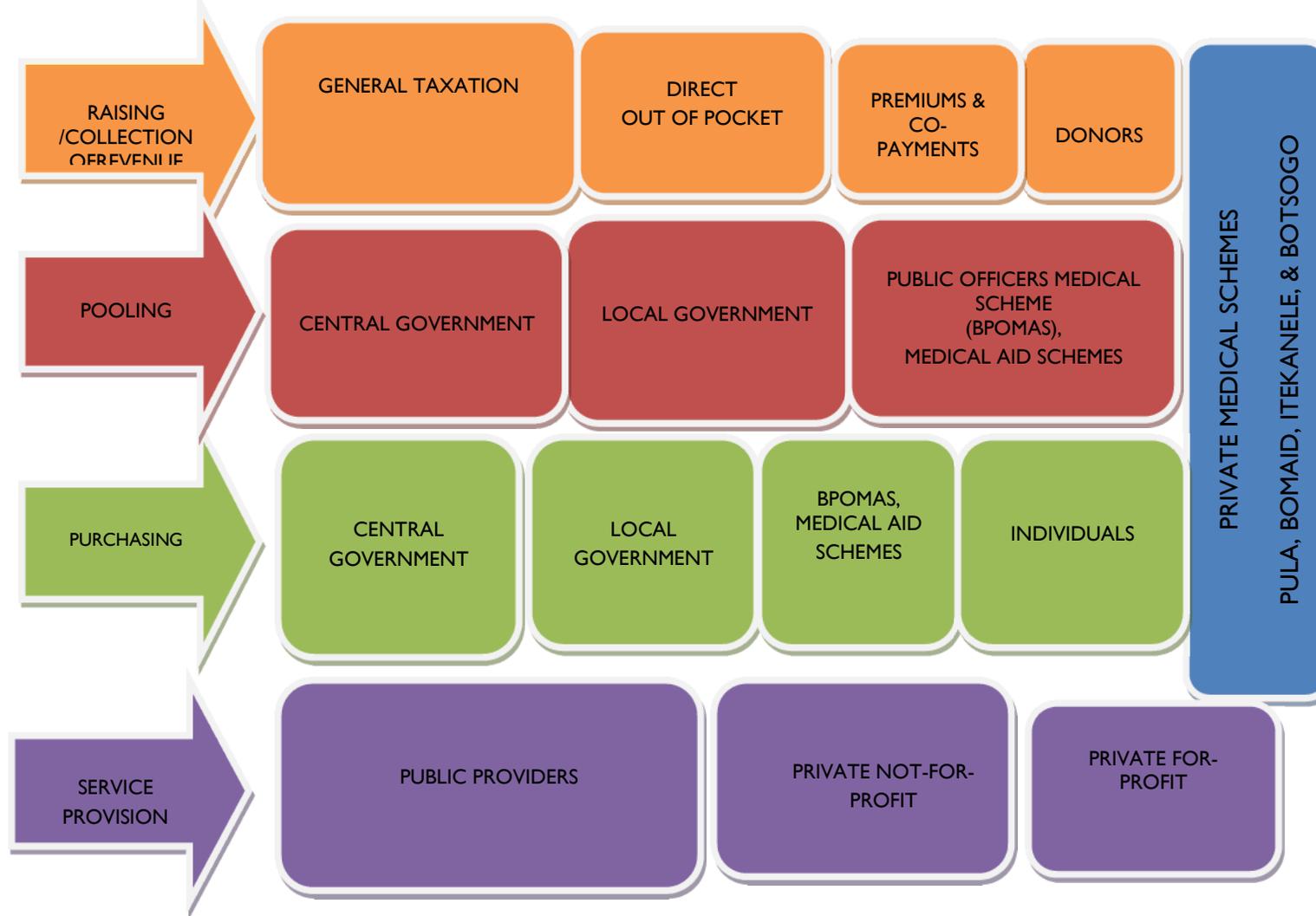
As Table I shows more specifically, in the early 2000s, government accounted for around three-quarters of THE. Over the three-year period covered by Botswana’s first round of NHA, there was an increase of 4 percent (from 71 percent to 75 percent) in government financing of health care, while the share of household OOP spending declined by 7 percent (from 16 percent to 9 percent). The donor share in government financing of health care increased by 3 percent (4 percent to 7 percent), while that of private employers increased by 1 percent (3 percent to 4 percent).

TABLE I: DISTRIBUTION OF THE BY FINANCING SOURCE, 2000/01-2002/03

Year	Government	Donors	Households		Employers	
			OOP	Premiums	Private	Parastatals/ State-owned
2000	71%	4%	16%	5%	3%	1%
2001	76%	5%	11%	5%	2%	1%
2002	75%	7%	9%	4%	4%	1%
Average	74%	5.3%	12%	4.7%	3%	1%

Source: MOH (2006)

FIGURE I: STRUCTURE OF THE HEALTH FINANCING SYSTEM IN BOTSWANA



Source: Botswana NHA tables 2010

3.3 MAJOR POLICIES THAT IMPACT HEALTH SERVICE DELIVERY AND HEALTH FINANCING

The way in which health care resources are raised, pooled, and allocated has a major impact on access to care. For universal coverage to be achieved there is need to make choices in three components of a health financing system: revenue collection, pooling, and purchasing (WHO 2005a). Putting in place health financing policies and mechanisms that ensure efficiency, equity, and universal coverage is therefore critical for health service delivery. As one of Botswana's commitments to ensuring universal access to health care services by its populace, the government in its draft revised Botswana National Health Policy (MOH 2010) has set the health financing goal as "raising and allocating sufficient resources and putting in place appropriate payment arrangements to ensure that all people living in Botswana have access to a range of cost effective health interventions at an affordable price regardless of their economic status." The following principles underpin the goal:

- Adequacy, sufficiency, and sustainability: Raising sufficient resources to meet the needs of population in a sustainable manner.
- Universality: Availing essential health service interventions to all people living in Botswana.
- Cost-effectiveness: Directing funding to those services which will deliver benefits at a reasonable cost.
- Affordability: Ensuring financial protection against catastrophic health expenditures.
- Efficiency: Ensuring efficiency in the collection and pooling of funds, low-cost services provided without compromising quality.
- Focus on vulnerable groups: Providing services that are targeted to vulnerable groups of the population.

In recognition of the need for a health financing policy, the draft revised Botswana National Health Policy has a chapter on health financing that outlines the country's policy direction on health financing. Major health financing policies that impact health service provision are identified as follows:

Ensuring availability of financial resources for a prepaid essential health services package (EHSP) to all citizens of Botswana free of charge: Providing health care services free at the point of delivery increases access to needed health care services, whereas having to pay discourages people from seeking care when they need it. When deciding on the mechanism for financing health care, it is crucial that the population is protected against catastrophic health care expenditures.

Promoting public-private partnership in order to achieve universal coverage of the EHSP: A public-private mix in financing health care is critical as it is seen to improve efficiency. Where ownership and control of health care delivery is not completely in the hands of the public service, there is competition among health care providers and this encourages improvement in health care quality.

Harmonisation and alignment of donor support to the health sector, through a Sector-wide Approach (SWAp) and Health Compacts: Pooling donor funds reduces fragmentation and waste.

Introduction and periodical review of taxes and levies on cigarette, alcohol, and other such items to fund promotive and preventive health activities: High reliance on income taxes and wage-based health insurance deductions as sources of health care funding can be risky for countries with high unemployment. The country's move to fund promotive and preventative health care activities through "sin taxes" is therefore important, because this could raise additional funding for health and ultimately expand access to health care services by the population.

Introduction of other prepayment mechanisms, such as social health insurance, to raise the level of revenue for health services outside the EHSP: Funds raised through the social insurance scheme are earmarked for health care; this makes for less competition with other government priorities such as education and agriculture. It is evident that the introduction of social health insurance will increase funding for health, thus allowing for expansion of provision of health care services to the population. Furthermore, prepayment funding mechanisms do not deter people from seeking care when they are in need as they will not have to pay when they seek care. However, it should be noted that if social health insurance does not cover the whole population, it could result in great inequities in access to and use of health care services, as it will create a two-tier system: one of better-quality health care for the insured and one of poor quality for the uninsured.

Formulation and periodical review of the resource allocation formulas for equitable and timely disbursement of funds to all districts and health facilities as well as national health programs: Equity is very important in health care resource allocation and the use of a standard formula is important in promoting fairness in allocation. Fair resource allocation ensures that each individual in the population receives the same share of health expenditure, thus ensuring that individuals with equal needs have equal opportunities of access to health care.

3.4 SUMMARY

This chapter has defined NHA and described health financing and its relevance as one of the pillars of a health system. Universal coverage can only be achieved if there is adequate funding channeled to health care and population groups (e.g., informal sector) that lack access. The choice of health care financing method(s) therefore has an impact on health service delivery. Although it is not possible to prescribe any funding model for any country, it is critical that the choice of model is based on equity (both horizontal and vertical¹), affordability, efficiency (both operational and allocative²) and universal access to health care. Botswana's health system can be categorised as the Beveridge health care system as it is predominantly financed through general taxation. Although the system has an advantage of sustainable health care services (because of guaranteed budget allocation regardless of whatever circumstance), there is need to diversify sources of health care funding as a way to move toward universal coverage and ensure continuity in access to health care services. Botswana has already made progress toward diversification of health funding – NHA findings from 2000-2002 and 2007-2010 show that the government's share of THE has declined from 74 percent to 68 percent. Combined with data on income quintiles and health outcomes, NHA data also can assess the equity and efficiency of the current health financing mechanisms.

¹**Horizontal equity** refers to the extent to which individuals with equal health status have equal access to health care while vertical equity refers to the extent to which individuals with unequal levels of income differ in the amount they have to contribute towards health care cost.

²**Allocative efficiency** refers to "pursuing health care programmes that are worthwhile (benefits exceed cost)...Operational efficiency means worthwhile programmes ensure that the best use is made of scarce resources to meet the programme's objective" (Donaldson et al. 2005: 76).

4. METHODS AND SOURCES OF DATA

4.1 NHA CONCEPTUAL FRAMEWORK

This Botswana NHA study used the internationally endorsed framework for contained in the *Guide to producing national health accounts with special application for low-income and middle income countries* (WHO et al. 2003). It collected both primary and secondary data for financial years 2007/08-2009/10 from institutions and used the Botswana Core Welfare Indicator Survey of 2009/10 for obtaining data on household OOP spending on health.

4.1.1 HEALTH CARE EXPENDITURE BOUNDARIES

The guiding principles for data collection were:

- Definitions of health expenditures: Institutions and individuals which/who were undertaking activities whose primary purpose was to improve, restore, or maintain health, regardless of effects or institution. The comprehensive list of such activities is shown in Table 2, as adapted to Botswana from the International Classification of Health Accounts (ICHA).
- Geographic boundary: Expenditures were included regardless of where they took place, as long as they were incurred by Botswana citizens and residents in 2007/08, 2008/09, and 2009/10. Attempts were made to collect expenditures on treatment abroad incurred by residents and citizens of Botswana.
- Time boundary: Institutions and individuals who financed or incurred health expenditures in 2007/08, 2008/09, and 2009/10.

TABLE 2: ACTIVITIES INCLUDED IN HEALTH EXPENDITURE

ICHA Code	Function
HC.1-HC.5	Personal health services and goods
HC.1	Services of curative care
HC.2	Services of rehabilitative care
HC.3	Services of long-term nursing care
HC.4	Ancillary services to health
HC.5	Medical goods dispensed to outpatients
HC.6-7	Collective health services
HC.6	Prevention and public health services
HC.7	Health administration and health insurance
HCR.1-HCR.5	Health-related functions
HCR.1	Capital formation of health care provider institutions
HCR.2	Education and training of health personnel
HCR.3	Research and development in health
HCR.4	Food, hygiene and drinking water control
HCR.5	Environmental health
HC.1-7	Total current expenditure on health (TCEH): H0
HC.1-7+HCR.1	Total expenditure on health (THE): H1
HC.1-7+HCR1-5	National health expenditure (NHE): H2

Source: WHO et al. (2003a)

4.1.2 DEFINITION OF NHA ENTITIES

As was discussed above, the major NHA entities are financing sources, financing agents, providers, and functions:

- **Financing sources:** institutions or entities that provide funds used in the health system by financing agents. In Botswana the financing sources consist of the government (Ministry of Finance and Development Planning), employers, parastatals, households, and donors (rest-of-the-world).
- **Financing agents:** institutions or entities that manage funds provided by financing sources and use those funds to pay for, or purchase, the activities inside the health accounts boundary (i.e., all activities whose primary purpose is to promote, restore, or maintain health). In Botswana, the financing agents include: MOH, Ministry of Local Government (MOLG), other ministries (e.g., Education, Defence, Labour and Home Affairs), National AIDS Coordinating Agency (NACA), private social insurance (government employees), other private insurance (medical aid schemes), private households' OOP payments, private firms (other than health insurance), NGOs (serving households), and donors. The sum of the funds channeled through all the financing agents should be equal to the total amount of money provided by the financing sources.
- **Providers:** entities that receive money in exchange for or in anticipation of producing the activities inside the NHA boundary. Examples of providers in Botswana include: public referral, district, and primary hospitals, clinics, health posts, mobile stops; private for-profit hospitals, clinics, and surgeries; mission hospitals; providers of ambulatory health care (e.g., offices of private physicians, dentists, and other practitioners); other providers of ambulatory care (e.g., ambulance services, blood and organ banks, traditional practitioners); retail sale and other providers of medical goods (e.g., dispensing chemists, suppliers of optical glasses and other vision products, suppliers of hearing aids); provision and administration of public health programs; general health administration and insurance; all other industries providing health care; institutions providing health-related services (e.g., education and training institutions producing human resources for health), and rest of the world. Ideally, the sum of the funds received by all the providers should be equal to the total amount of money provided by the financing agents.
- **Functions:** goods and services provided and activities performed within the health accounts boundary. In Botswana, these include, for example, services of curative care (outpatient and inpatient); services of rehabilitative care; ancillary services to medical care; prevention and public health services; health administration and health insurance; capital formation of health care provider institutions; education and training of health personnel; research and development in health; food, hygiene, and drinking water control; and environmental health. Ideally, the sum of the funds spent in the performance various functions should equal the total amount of money received by providers from the financing agents.
- **Resource costs:** the factors or inputs used by providers or financing agents to produce the goods and services consumed or the activities conducted in the health system. In Botswana, resource costs include: remunerations for human resources for health, supplies (pharmaceutical and non-pharmaceutical), operating and maintenance, and capital expenditure (buildings, equipment, and vehicles).
- **Beneficiaries:** the people who receive those health goods and services or benefit from those activities (beneficiaries can be categorised in many different ways, including age and sex, socioeconomic status, health status, and location).

4.2 DATA SOURCES

The NHA study relied on primary and secondary data. A wide range of data and information was collated from various government publications/sources. In addition, seven surveys were conducted of the following sectors, organisations, and institutions:

1. Government ministries: Ministry of Finance and Development Planning, Office of the President, MOH, MOLG, Ministry of Labour and Home Affairs, and Ministry of Education;
2. NACA;
3. Health care providers: Private for-profit/mission (not-for-profit) facilities;
4. Insurance (public and private), including medical aid schemes;
5. Employers/firms (including parastatals);
6. NGOs (involved in health);
7. Donors (both bilateral and multilateral).

The following sections review the data sources.

4.2.1 HOUSEHOLDS

Limited resources made it impossible to do a household health expenditure and utilisation survey, which would have provided more detailed information on household spending. Instead, household health expenditure data contained in the 2009/10 Botswana Core Welfare Indicators Survey, undertaken by the Central Statistics Office (CSO) was used. The CSO household questionnaire contained the following health-related questions: “In the past year how much has your household incurred for medical costs for the following (other than previously mentioned)-Excluding expenditure for the past 4 weeks: consultations with the private doctor; consultations with the traditional doctors or healers; dental treatment; cost of surgery; consultation with optician, cost of eye tests; costs of spectacles, lenses, etc.; purchase of drugs and medicines (excluding common medicines such as painkillers, cough mixture; and other major medical expenses (Specify).”

4.2.2 EMPLOYERS

A CSO database was used to identify companies listed in Botswana. The database was cleaned to ensure that we had companies that existed in 2007-2010. A sample frame was obtained from the CSO. A total list of 8,370 companies was used to draw the sample size.

A sample size of 10 percent of the 8,370 companies was proposed, which would have made a sample size of 837 companies. However, 837 companies were considered too many to survey due to limited time allocated to the project and budgetary constraints. As such, only large and very large companies were randomly selected including big companies under the unknown category, which resulted in a sample size of 395 companies or 5 percent of the total. Of the 395 companies surveyed, 207 (52.4 percent) completed and returned the questionnaires (Table 3). Weighting was done to compensate for the non-responses. The average expenditures were then extrapolated to the whole population of large and very large companies.

It should be noted that most small and medium enterprises in Botswana do not own health facilities or reimburse medical expenses of their health workers. As such, the selection of large and very large companies, which often do reimburse their employees' medical expenses and own some health facilities (private companies contribution for employees health insurance were obtained through surveys of health insurance organisations) does not really introduce a great bias in the sample selection.

4.2.3 NGO SURVEY

An NGO directory produced by the NGO council, MOH Partnerships and Stakeholder Inventory, and NACA Stakeholder Inventory were used to compile a sampling frame of NGOs that provide health care services. The directory provided NGO addresses, location, and activities.

The NGOs were divided into two groups: local and international. All the international NGOs were included in the study, since they were few in number but were heavily funded. The local NGOs were randomly sampled. In total 55 NGOs were surveyed; the response rate was 54.5 percent. Because most of the funding for NGOs in Botswana is for HIV/AIDS activities, data from National AIDS Spending Assessments (NASAs), conducted by NACA for the years 2006/07 to 2008/09, were used to fill the gaps from the low NGO survey responses.

4.2.4 DEVELOPMENT PARTNERS/ DONOR SURVEY

There were 32 donors in Botswana but about 15, all based in Gaborone, were funding the health system. The donor survey instrument was sent to all of them. However, only six of them responded. Like the NGOs in Botswana, almost all donors working in the health sector finance HIV/AIDS-related activities; to compensate for the non-response, data for the other nine were extracted from the NASA database.

4.2.5 MEDICAL AID SCHEMES AND INSURANCE FIRMS' SURVEY

There were a total of five medical aid schemes/insurance firms registered in the country. The questionnaire was sent to all of them. Data on the total reimbursements made by insurance firms to health providers were obtained as well as identifying the nature of services rendered (e.g., inpatient, outpatient, and pharmaceuticals) and spending on administration. Only three major medical aid schemes (60 percent) responded. As the remaining two were small in terms of coverage and membership, the response from the three large schemes was deemed adequate to estimate health insurance expenditures in Botswana.

4.2.6 GOVERNMENT MINISTRIES/DEPARTMENTS/PARASTATALS SURVEY

4.2.6.1 MINISTRY OF HEALTH

For the purpose of the NHA estimates, MOH expenditures were defined to include the following components:

- Direct expenditures by departments to provide health care goods and services;
- Total emoluments staff delivering the departmental services;
- The cost of administrative services provided in support of departments directly delivering health care goods and services.

The main sources of the MOH expenditure data were obtained from:

- Government of Botswana 2007/08, 2008/09, and 2009/10 Estimates of Recurrent and Development Expenditures issued by the Ministry of Finance and Development Planning.

No specific survey was done of the referral, district, and primary hospitals under MOH jurisdiction because the information on all cost centres for the three-year period studies was available from the Government Accounting and Budgetary System (GABS) in disaggregated form.

Because the MOH budget and spending is centralised, in order to estimate for spending by provider type especially for referral, district, and primary hospitals and central-level departments, several techniques were employed: 1) a review of each department/program expenditures from GABS (expenditure print-outs) by MOH accounting personnel and allocating the expenditures directly to the provider/program/department; 2) use of key informants to allocate expenditures to the provider/program/department. Furthermore, as curative health care service provision in Botswana is

integrated and funding is by inputs (e.g., salaries, drugs, medical supplies), in order to split between inpatient and outpatient expenditures two techniques were used: a) direct allocation of expenditures to the functions after thorough review of the expenditures in the GABS by accounting personnel; and b) use of utilisation data for both outpatient and inpatient (including inpatient days) developed a ratio of 1:5 for splitting outpatient and inpatient expenditures, respectively.

4.2.6.2 MINISTRY OF LOCAL GOVERNMENT

The main sources of the MOLG expenditure data were obtained from:

- Government of Botswana 2007/2008, 2008/2009, and 2009/2010 Estimates of Recurrent and Development Expenditures issued by Ministry of Finance and Development Planning.

No specific survey was undertaken of MOLG health facilities. The understanding was that their information would be available at the MOLG headquarters in disaggregated form. The MOLG submitted information per district. This information was then directly allocated to providers and functions by NHA team members during the data analysis workshop.

4.2.6.3 MINISTRY OF EDUCATION

The Ministry of Education provides health care services to students in school health programs and pays medical insurance for students sent abroad for pre-service training. A questionnaire was sent to the ministry; data were not provided.

4.2.6.4 MINISTRY OF DEFENCE, JUSTICE, AND SECURITY

The Department of Defence (formerly the Ministry of Presidential Affairs and Public Administration, Office of the President) was given the table format that was used to collect information from other government ministries and departments. Numerous follow-ups yielded a very positive response, as the form was filled out well.

4.2.6.5 MINISTRY OF LABOUR AND HOME AFFAIRS

The health financial expenditure for running the health facilities for the Department of Prisons and Rehabilitation Services was requested from Ministry of Labour and Home Affairs.

4.2.6.6 STATE-OWNED CORPORATIONS

State-owned corporations (parastatals) incur health expenditures. A listing of parastatals was obtained from the CSO. Out of the 11 parastatals that were included in the sample, only six (54.5 percent) responded. The average expenditure from the six responding parastatals were extrapolated to the entire 11.

4.2.6.7 NATIONAL AIDS COORDINATING AGENCY

NACA, like other government health-related departments, was asked to provide information on its expenditure. The most recent NASA was used to provide information on the total amount of funding given to the various organisations implementing HIV/AIDS-related activities/interventions and those funds spent at NACA. This included data on medicines and pharmaceuticals.

4.3 DATA COLLECTION AND ANALYSIS

4.3.1 DATA COLLECTION

The NHA team developed several questionnaires to use for data collection, and several workshops were held to train data collectors, and familiarise stakeholders with NHA purpose and methodology.

4.3.1.1 QUESTIONNAIRES

The following questionnaires were developed:

- Insurance (public and private), including medical aid schemes;
- Employers/firms (including parastatals);
- NGOs (involved in health);
- Donors (both bilateral and multilateral).

The questionnaires were adapted from those used in Botswana in 2002 and those of Malawi in 2005. The data collection instruments were pilot-tested and revised prior to administration.

4.3.1.2 TRAINING AND IMPLEMENTATION

To facilitate the data collection process, a five-day NHA training workshop was held in August 2010. Data collectors were trained in basic concepts of NHA and administration of NHA tools. Tools were sent to all institutions selected for the study prior to fieldwork. This was to enable the participants to familiarise themselves with the data requirements, complete the questionnaires where possible, and put together institutional materials such as annual reports.

To encourage stakeholder cooperation with data collectors, a one-day NHA launch workshop was held with potential NHA stakeholders. The stakeholders were introduced to NHA, and the usefulness and relevance of NHA findings to Botswana.

Five research teams visited and administered the tools during the months of February and March 2011. The teams were divided as follows: Team 1 was based in Gaborone; Team 2 covered Kasane and Francistown areas; Team 3 covered Ghanzi and Maun areas; Team 4 covered Serowe, Orapa, Palapye, and Selibe Phikwe areas; and Team 5 covered Gaborone surrounding towns and villages. The teams that covered areas outside Gaborone had to come back to help the Gaborone team as most of the companies are based in Gaborone. The visit by the NHA technical team helped clarify issues and ensure that the tools received were complete. Not all tools were collected during the team's visit and those that were not able to complete the tool at the time of the visit were advised to send the completed tool by mail or facsimile. Due to the poor response from the respondents, data collection was still ongoing even during data analysis and report writing.

4.3.2 DATA ANALYSIS

After checking for completeness of the questionnaires filled by various organisations, the data were entered and cleaned using Excel. These data were then coded using the ICHA shown in Table 2 to facilitate international comparison, but customised to the local situation. Using Excel software, pivot tables for the following NHA tables were produced:

- Financing Sources (FS) to Financing Agent (HF): (FS X HF)
- Financing Agent (HF) to Providers (HP): (HF X HP)
- Health Providers (HP) to Functions (HC) (HPXHC)
- Financing Agents (HF) to Functions (HC): (HF X HC)

4.4 FUNDING OF THE STUDY

The study design, training of NHA team members, enumerators, research assistants, data collection, entry, cleaning and analysis were funded by PEPFAR Botswana. All technical support was provided and funded through the USAID Health Systems 20/20 project implemented by Abt Associates Inc. and partners.

4.5 OBSTACLES TO AND LIMITATIONS OF THE NHA STUDY

Although the first NHA stakeholders meeting and project launch workshop took place in August 2010, the data collection did not begin until February 2011. The NHA study encountered a number of obstacles; chief among them were the following:

- Some of the private sector respondents were reluctant to complete the questionnaires because they were suspicious that the data being collected could be used for tax purposes. This resulted in delays in submission and incomplete responses.
- The timing of the study posed difficulties as it was started at the end of the month and financial year of most of the companies, when the companies were busy with audits and processing employee salaries.
- The format in which the expenditure data were routinely recorded by the government ministries, NACA, other financing agents, and providers was not in the form required for NHA. Thus, many organisations found it quite difficult to provide detailed flow of expenditures to functions and inputs.
- Health expenditure data of the Ministry of Education were lacking.
- The unavailability of a single source of information that lists all donors and NGOs that provide health care services might have led to some omissions.
- The CSO's list of companies operating in the country that was used to design the study sample was found by NHA data collectors to be outdated, as some of the companies no longer existed or a single company was registered under different names.
- The NHA working group encountered problems in obtaining health expenditure information from some of the donors in spite of sustained follow-ups.

5. NHA RESULTS

This chapter presents the results of the NHA. In addition to presenting the basic NHA tables, it attempts to analyze, based on the available data, adequacy of financial resources, sustainability, and allocative efficiency of the Botswana health system.

5.1 TOTAL HEALTH EXPENDITURE

This section looks at total expenditure on health (THE), first for the entire health sector, then for the public health sector.

5.1.1 OVERALL HEALTH SECTOR

Policy questions:

- How much of its wealth does Botswana invest in health? Are actual expenditures on health increasing over time in Botswana?
- How does Botswana compare with other countries items of health investments and health outcomes?
- Are health resources adequate for provision of a package of cost effective interventions?

For the three financial years of this study, Botswana's THE increased from more than BWP 4.0 billion (US\$660.8 million) to BWP 5.3 billion (US\$789.9 million), representing a growth of 30 percent and 5.3 percent and 6.3 percent of GDP, respectively (Table 3). Per capita total spending on health grew from US\$380.53 to US\$444.66. This is one of the highest rates of spending on health among countries of the Southern Africa Development Community (SADC) and the sub-Saharan Africa region and is adequate to provide a package of cost-effective interventions in upper middle-income countries, estimated at US\$365 per capita per annum (WHO 2001).

TABLE 3: MAIN NHA FINDINGS, 2007/08-2009/10

Variable	2007/08	2008/09	2009/10	Average 2007/08-2009/10
Total population	1,736,396	1,755,246	1,776,496	1,756,046
Average exchange rate US\$1=BWP	6.13496	6.765899	6.6711	6.5
Nominal GDP (BWP)	75,992,700,000	91,655,500,000	83,199,300,000	83,615,833,333
Total government expenditure (millions BWP)	14,725,700,000	18,184,700,000	20,154,000,000	17,688,133,333
Total health expenditure (THE)(BWP)	4,053,728,794	4,441,961,905	5,269,770,982	4,588,487,227
Total government expenditure on health (pula)	2,727,415,338	3,039,162,704	3,588,505,498	3,118,361,180
Per capita THE (at average US\$ exchange rate)	380.53	374.03	444.66	399.74
THE as a % of GDP	5.3%	4.8%	6.3%	5.5%
Government spending on health as % of GDP	3.6%	3.3%	4.3%	3.7%
Government expenditure on health as a % of THE	67.3%	68.4%	68.1%	67.9%
Total government expenditure on health per capita (at average US\$	256.03	255.91	302.80	271.6

Variable	2007/08	2008/09	2009/10	Average 2007/08- 2009/10
exchange rate)				
Total government expenditure on health as a % of total government expenditure	18.5%	16.7%	17.8%	17.7%
National expenditure on health (BWP)	4,338,523,390	5,076,558,584	5,492,072,694	4,969,051,556
Per capita national expenditure on health (at average US\$ exchange rate)	407.27	427.47	463.42	432.7
Distribution of THE by financing source (%):				
Public	67.3%	68.4%	68.1%	67.9%
Donor	14.0%	12.5%	7.9%	11.5%
Private	18.7%	19.0%	24.0%	20.6%
Private companies and parastatals	5.6%	9.8%	5.5%	7.0%
Households	13%	9.3%	18.5%	13.6%
Local NGOs	0.1	0.0%	0.0%	0.0%
Households:				
Household expenditure on health as a % of THE	13.0%	9.3%	18.5%	13.6%
Out-of-pocket expenditure on health as a % of THE	3.9%	4.2%	4.4%	4.2%
Out-of-pocket expenditure on health as a % of private expenditure on health	20.8%	27.8%	28.9%	25.8%
Out-of-pocket per capita expenditure on health (at average US\$ exchange rate)	14.70	15.54	19.74	16.66
Distribution of THE by financing agent (%):				
Public	65.8%	65.2%	62.8%	64.6%
Donor	9.1%	9.3%	2.1%	6.8%
Private	25.2%	25.6%	35.1%	28.6%
Distribution of THE by provider type (%)				
General hospitals	43.8%	54.3%	60.8%	53.0%
Specialty hospitals	1.1%	0.9%	0.8%	0.9%
Health clinics and health posts	9.4%	9.8%	9.6%	9.6%
Providers of ambulatory care (excluding health clinics and health posts)	5.9%	6.1%	3.8%	5.3%
Retail sale of medical goods	2.9%	2.9%	4.0%	3.3%
Provision and administration of prevention and public health services	9.5%	7.6%	9.2%	8.7%
General health administration	23.3%	17.1%	10.9%	17.1%
Other providers of health care services	4.2%	1.4%	1.0%	2.2%
Distribution of THE by health care function (%)				
Services of curative	55.3%	64.0%	56.6%	58.6%
Inpatient	27.1%	34.9%	30.7%	30.9%
Outpatient	28.2%	29.1%	25.9%	27.7%
Services of rehabilitative care	0.4%	0.6%	0.6%	0.5%
Prevention and public health services	9.5%	7.3%	9.1%	8.6%
Health administration and health insurance	14.0%	16.2%	7.4%	12.5%
Capital formation of health providers	13.0%	3.8%	16.7%	11.2%
All other health care functions	7.9%	8.1%	9.6%	8.5%

Source: Botswana NHA 2010

Policy question:

- How did Botswana's health expenditure fare in relation to other countries in the SADC region and WHO Africa region?

Table 4 shows that Botswana ranked second among the 13 SADC countries (Zimbabwe was excluded due to lack of comparable data) in terms of THE per capita and it is one of the two countries in the SADC region that met the Abuja target of allocating 15 percent of government expenditures on health by 2009. This is a great achievement and Botswana must be commended as this confirms its commitment to allocating more resources to health. In terms of GDP spending on health, it is also well above the average of the SADC region of 4.8 percent.

TABLE 4: HEALTH EXPENDITURE BY SADC AND OTHER SELECTED COUNTRIES, 2009

Country	THE as % of GDP	THE/Capita	General Government Spending on Health as % of Total Government Expenditure
Angola	4.7%	203.18	11.3%
Botswana	6.3%	444.66	17.8%
Lesotho	8.2%	70.05	8.2%
Malawi	6.2%	19.07	12.0%
Mauritius	5.6%	377.50	8.0
Mozambique	6.2%	27.06	14.2%
Namibia	6.0%	257.97	12.1%
South Africa	8.5%	485.43	9.3%
Swaziland	6.3%	155.78	9.3%
United Republic of Tanzania	5.1%	25.31	18.1%
Zambia	6.2%	60.61	15.7%
Average	4.8%	163.6	9.1%

Source: WHO (2010); Botswana NHA tables 2010 for Botswana data

Note: No comparable data available on Zimbabwe

Policy question:

- How did Botswana fare in relation to other countries in terms of health spending and health outcomes?

Table 5 shows the relationship between health spending and health outcomes in the SADC region, WHO Africa region, and around the globe. While Botswana spends more on health than do Mauritius and Namibia, these two countries have better health outcomes than Botswana. This is not surprising as the health of an individual or population is a function of many variables (income, education, housing conditions, environment etc.) and health care (manifested in health spending in this case) is just one of them. Related to this is the fact that the efficiency with which health systems in different countries convert inputs into outputs and then into outcomes is different.

TABLE 5: INTERNATIONAL COMPARISON OF HEALTH SPENDING AND HEALTH OUTCOMES, 2009

Country	THE Per Capita (US\$)	Infant Mortality Rate (%)-	Maternal Mortality Ratio/100,000 Live Births	Life Expectancy-
Angola	203.18	98	610	52
Botswana	444.66	43	190	54.4
Lesotho	70.05	61	530	48
Malawi	19.07	69	510	47
Mauritius	377.5	13	36	73
Mozambique	27.06	96	550	49
Namibia	257.97	34	18	57
South Africa	485.43	33	410	54
Swaziland	155.78	52	420	49
United Republic of Tanzania	25.31	68	790	55
Zambia	60.61	56	470	48
Average WHO Africa Region 2008	84	85	900	53
Average WHO Euro Region 2008	2169	12	27	75
Singapore	1501	2.3	14	81
United Kingdom	3285	6	8	80
USA	7410	26	11	78

Source: Botswana NHA tables 2010, World Health Report 2010

With these factors in mind, it is clear that countries with similar GDP or with similar levels of health spending and allocations between services, geographic areas, and so forth could produce completely different health outcomes. Thus health financing decisions/policies should be made after thorough analysis of current local epidemiological profile relative to the desired level of health status, taking into consideration the effectiveness of health inputs that would be purchased at existing prices, equity concerns, and so on, and taking account of the relative value and cost of other demands on social resources. In short, copying and pasting other countries' health financing approach should be avoided.

5.1.2 PUBLIC HEALTH SECTOR

Policy question:

- Has Botswana met the Abuja target of 2001?

As seen in Table 3, in years 2007/08, 2008/09, and 2009/10, total public health spending as a percentage of total government expenditure stood respectively at 18.5 percent, 16.7 percent, and 17.8 percent. These percentages exceed the 15 percent Abuja target and make Botswana one of only two countries in the SADC region and the WHO Africa region to achieve the Abuja target. In per capita terms, this spending translates to US\$256.03, US\$255.91, and US\$302.80 over the three years, also well above the Africa region average of US\$76 per capita per annum. As a percentage of GDP, these government expenditures represent 3.6 percent, 3.3 percent, and 4.3 percent in the respective years.

These findings make it clear that Botswana does not lack financial resources to finance a minimum package of cost-effective health care interventions. Rather, problems in health financing are attributable to the way the resources are allocated and utilised, that is, to inefficiency and inequities in resource allocation and utilisation.

5.2 FLOW OF FUNDS THROUGH THE HEALTH SECTOR

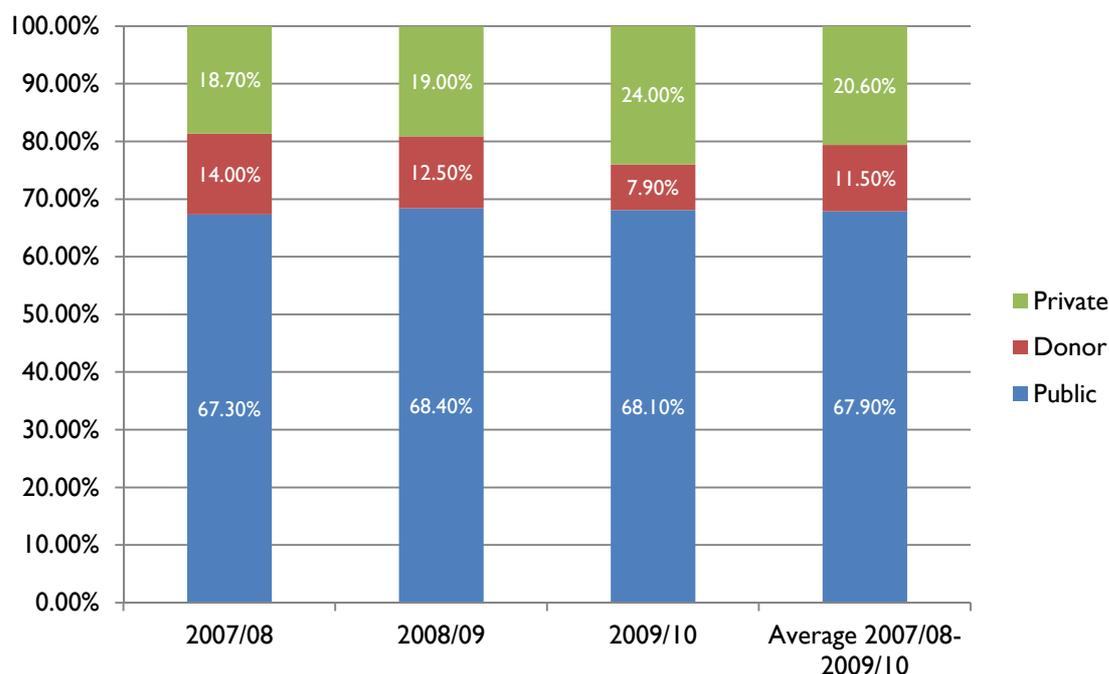
5.2.1 FINANCING SOURCES

Policy questions:

- Who are the major sources of financing health care services and goods in Botswana? And how are their roles changing over time?
- How sustainable is the Botswana health system?

Financing sources generate health funds and pass them on to financing agents. In the three years covered by this NHA study, government funds accounted for the bulk of THE, ranging between 67.3 percent and 68.1 percent (an average of 67.9 percent); private sources came second (average 20.6 percent), while donors came last (average 11.5 percent) (see Table 3 and Figure 2).

FIGURE 2: HEALTH FINANCING SOURCES, 2007/08-2009/10



Source: Botswana NHA tables 2010

Based on the health expenditure findings of Botswana’s first round of NHA (MOH 2006) and this NHA study, the country’s health system can be described as being tax-funded. With such relatively little dependency on donor funding, Botswana’s health systems is one of the few sustainable ones in the WHO Africa region and as such it could continue with its activities in the event of sudden withdrawal of donor aid to the health system. However, it should be noted that too much reliance on government funding, which is mainly from general tax revenue, also poses some serious potential problems: general tax revenue depends on a country’s macroeconomic performance, which itself depends on variables such as international trade. If trade declines, general tax revenue could decline, and the government could be forced to reduce health system funding. This happened with the global financial crisis in 2008/09 – Botswana was affected as it relies heavily on the exports of its goods and services to generate revenue. As was seen in Table 3, Botswana spending on health fell from 5.3 percent of GDP in 2007/08 to 4.8 percent of GDP in 2008/09; in per capita terms, it fell from US\$380.53 to US\$374.03.

This therefore calls for the search for complementary financing mechanisms that could augment the general tax-funded health system. “Sin taxes” on alcohol and tobacco are one such mechanism; social health insurance is another.

Furthermore, there is evidence that tax-funded health expenditure benefits the rich more than the poor in most African countries. For example, a study by Castro-Leal et al. (2000) found that about 30 percent of total government health expenditure benefits the top 20 percent of the population, while only about 12 percent of it benefits the poorest 20 percent. This situation could also be the case in Botswana. However, detailed investigation, such as a benefit incidence analysis (BIA), needs to be undertaken to establish the population groups which benefit more from huge government expenditures on health. One issue that should be made very clear is that one of the objectives behind the exemptions in the payment of user fees in all public health facilities, introduced in 2007/08, was to provide access to and promote the utilisation of health care services by all citizens so as to reverse the inequities which had characterised the health system since the introduction of user fees. Thus, if the BIA in Botswana finds that general tax-funded health spending is benefiting the rich more than the poor, it can also help identify the causes, for example, public spending may be concentrated in tertiary care that only wealthier consumers access.

Again, this calls for alternative financing mechanisms for health care, preferably ones that reduce inequities as well as ensure sustainable financing. One mechanism is social health insurance, as identified in the draft revised Botswana National Health Policy 2010 (MOH 2010). However, unless designed to benefit the poor, social health insurance runs the risk of worsening inequity. Its implementation requires assessment of its potential to address inequity and feasibility.

As was seen in Figure 3, private sources, mainly households and employers (private firms and parastatals), are second to government as a financing source, contributing an average of 20.6 percent of THE during the period under review. Households through their health insurance contributions and direct OOP payments were the major private sources of health spending during the period under review, averaging 65.0 percent of total private sources of health funds (Table 6). Employers (private companies and self-employed) through their contributions to their employees' health insurance payments, reimbursement of employees' medical expenses, and financing of health care services in their own health facilities made up the balance, an average of 34.7 percent of the total private sources of health funds. In light of the fairly large number of companies that existed in Botswana during the study period, this implies that employers are underinvesting in the health of their employees. As such, there is a potential of increased contribution to health spending by employers. This could be achieved through mandatory registration requiring all employers to provide health insurance for their employees. The proposed social health insurance could also be a viable option. Local NGOs contributed almost nothing but they could also engage in resource mobilisation activities such as holding raffles, and engaging in agricultural activities such as raising chickens, goats, and cows, instead of relying on government and donor funding.

TABLE 6: PERCENTAGE DISTRIBUTION OF PRIVATE SOURCES OF HEALTH FUNDS, 2007/08-2009/10

Private Source	2007/08	2008/09	2009/10	Average 2007/08-2008/09
Employers	29.9%	51.2%	23.0%	34.7%
Households	69.5%	48.6%	76.9%	65.0%
Local NGOs	0.6%	0.1%	0.1%	0.3%
Total private sources	100%	100%	100%	100%

Source: Botswana NHA tables 2010

Donors contributed the smallest percentage, an average of 11.5 percent of THE between 2007/08 and 2009/10 (Table 3). The reasons behind the low level of donor contributions to health are not clear and deserve further investigation. The bulk of donor funds were spent on HIV/AIDS by NGOs and NACA.

It could be argued that donor financing in particular for HIV/AIDS is increasing in Botswana. However, it should be noted that donor funding in Botswana, as in most other sub-Saharan African countries that do not have SWAp pooled/discrete health funding, is earmarked mostly for preventive HIV/AIDS services such as PMTCT and HIV counseling and testing, and in special cases ART. This therefore implies that the financial burden of treatment of HIV/AIDS opportunistic infections falls on the public health facilities.

Related to the above is the fact that the majority of NGOs working on HIV/AIDS in Botswana are funded by donors. However, most of their health programs are not drawn from the MOH plans. In addition, some donors also fund some other government institutions and activities off-budget. Furthermore, there is no written memorandum of understanding between NGOs working in the health sector and the MOH that clearly spell out what is to be provided and location of operation. In addition, while the number of donors in Botswana is small, their number is increasing, and this raises concerns about the management burden on the government. The re-emergence of global disease initiatives, which are often vertically managed, adds to the complexity, as there is sometimes a clash between globally determined and nationally identified health priorities. It has also been observed that human resource and other systems requirements of scaling up global disease interventions have in

most cases been ignored or the human resources have been poached from the already weak public health sector due to some development partners' preference for short-term service-coverage deliverables over long-term systems strengthening. Crowding out of traditional public health interventions, such as those of reproductive health, in particular maternal and child health, has also occurred as local and donor resources are increasingly used to address the HIV/AIDS pandemic.

This implies that there is need to improve the efficiency and effectiveness of donor funding as it is clear from the above analysis that there are more likely to be duplication of efforts and wastage of resources in the Botswana health system. Bringing together all donors under a health SWAp for funding and management (pooled or discrete funding) would improve this situation.

5.2.2 FINANCING AGENTS

Policy questions:

- Who manages/controls health funds in the Botswana health system? And how have their roles changed over time?
- What is the burden of health financing on households through direct OOP spending?

Financing agents are institutions or entities that have programmatic control on how and where the funds are spent. They undertake the financing function of pooling and purchasing-pooling resources from different financing sources and purchasing health care/paying health providers through a variety of mechanisms such as budgets and contracts.

The major financing agent in Botswana is the MOH, which controlled an average of 43.6 percent of THE during the period under review (see Table 7). Medical aid schemes such as BOMAID and PULA were the second major financing agents, managing an average of 11.3 percent of THE. NACA was third, controlling about 10.8 percent of THE. Household direct OOP payments averaged of 4.2 percent of THE. This is one of the lowest levels of direct household OOP spending in the WHO Africa region and indeed the world. Such a low level of household OOP spending makes it is less likely that health care expenses will be catastrophic and deny the poor access to health care services (WHO 2005b).

TABLE 7: DISTRIBUTION OF THE BY FINANCING AGENTS, 2007/08-2009/10

ICHA Code	Financing Agent	2007/08	2008/09	2009/10	2007/08-2009/10
Public		65.8%	65.2%	62.8%	64.6%
HF.1.1.1.1	Ministry of Health	41.9%	45.6%	43%	43.6%
HF.1.1.1.2	National AIDS Coordinating Agency (NACA)	14.4%	8.6%	9%	10.8%
HF.1.1.1.4	Ministry of Defence, Justice and Security (formerly Min. of Presidential Affairs and Public Administration, Office of the President)	0.5%	0.4%	0.3%	0.4%
HF.1.1.1.9	Other ministries	0.2%	0.2%	0.0%	0.1%
HF.1.1.3	Local/Municipal government	8.8%	10.4%	9.9%	9.7%
Private		25.2%	25.6%	35.1%	28.6%
HF.2.1	Private social insurance (Botswana Public Officers Medical Aid Scheme - BPOMAS)	8.5%	8.2%	17.2%	11.3%
HF.2.2	Other private insurance (Medical Aid Schemes - BOMAID, PULA)	9.7%	10.0%	10.8%	10.2%
HF.2.3	Household out-of-pocket payments	3.9%	4.2%	4.5%	4.2%
HF.2.4	Non-profit institutions serving households (national NGOs)	2.4%	2.5%	2.5%	2.5%

HF.2.5	Private firms and corporations (other than health insurance)	0.8%	0.7%	0.1%	0.5%
Donors		9.1%	9.3%	2.1%	6.8%
HF.3	Bilateral cooperation	3.9%	4.0%	0.0%	2.6%
HF.3.2	Multilateral cooperation	0.2%	0.2%	0.1%	0.2%
HF.3.3	International NGOs	5.0%	5.1%	2.0%	4.0%

Source: Botswana NHA tables 2010

An examination of private financing agents in total private financing agents' spending also reveals that the majority of private funds (average 74.3 percent) flow through an insurance scheme (Table 8). Households' direct OOP spending was at a low of 14.8 percent of total private health spending and as noted earlier, only 4.2 percent of THE or an average of \$16.80 per capita/annum. This implies that there was very little burden imposed on households through direct OOP spending. Most other sub-Saharan Africa countries struggle with higher OOP spending (regional average of 37.7 percent (WHO 2008)), which limits access to and utilisation of health services by the poor or exposes households to the risk of catastrophic health costs. Thus the Botswana health system could be said to be offering financial protection to the majority of its citizens.

TABLE 8: DISTRIBUTION OF HEALTH EXPENDITURES BY PRIVATE FINANCING AGENTS, 2007/08-2009/10

ICHA Code	Financing Agent	2007/08	2008/09	2009/10	2007/08-2009/10
HF.2.1	Private social insurance (Botswana Public Officers Medical Aid Scheme - BPOMAS)	33.6%	31.9%	49.1%	38.2%
HF.2.2	- Other private insurance (Medical Aid Schemes - BOMAID, PULA)	38.4%	39.3%	30.8%	36.1%
HF.2.3	Household out-of-pocket Payments	15.3%	16.3%	12.7%	14.8%
HF.2.4	Non-profit institutions serving households (National NGOs)	9.4%	9.8%	7.1%	8.8%
HF.2.5	Private firms and corporations (other than health insurance)	3.3%	2.7%	0.3%	2.1%

Source: Botswana NHA tables 2010

Much as the majority of total private funds were managed by private health insurance schemes, in particular, medical aid schemes, it should be noted that multiple pools serving different sectors and population groups in a small population like that of Botswana is more likely to be inefficient, as there is a possibility of duplication of efforts and an increase in the costs of administration and information systems. For example, during the period under review the average administrative costs of the health insurance schemes was 18 percent of total health insurance scheme expenditures (Botswana NHA tables 2010), more than the recommended 15 percent for administrative expenses. In addition, multiple pools also make it difficult to achieve equity and risk protection (WHO 2010). As such, merging the multiple health insurance medical schemes into one – assuming it includes poor and informal sector populations – would be one way of improving efficiency and equity in the Botswana health system. This could also signal the introduction of a social health insurance scheme, as the government is considering.

5.2.3 HEALTH CARE PROVIDERS

Policy questions:

- Where do health funds go in the Botswana health system?
- How efficiently are resources allocated between providers in the Botswana health system?

Providers are the entities that deliver health service. They answer to the question “where does the money go?” They include entities such as public and private hospitals, health clinics, health posts, and pharmacies.

Overall, hospitals as health providers accounted for the greatest proportion (average 53 percent) of THE (Table 9). Among the general hospitals, district hospitals were the largest recipient of health funds during the period under review, averaging 15.1 percent of THE, with referral hospitals coming second at an average of 11.5 percent of THE. Private not-for-profit hospitals saw a threefold increase in 2009/10 because of an increase in spending by social health insurance scheme BPOMAS, indicating growth in pooling arrangements. Provision of general administration of health came second, after hospitals, at an estimated average of 17.1 percent of THE over the three years. However, there was a significant decline in 2009/10, to 10.9 percent, because of restructuring of MOH functions, which saw some general administration functions being reduced. Provision and administration of prevention and public health programs received only 8.7 percent of THE during the period. This spending pattern makes the Botswana health system a hospital-based system, which is not an efficient allocation of resources (World Bank 1994, WHO 2010).

TABLE 9: PERCENTAGE DISTRIBUTION OF TOTAL HEALTH EXPENDITURE BY HEALTH PROVIDER TYPE, 2007/08-2009/10

ICHA Codes	Health Provider Type	2007/08	2008/09	2009/10	Average 2007/08-2009/10
HP.1.1	General hospitals	43.8%	54.3%	60.8%	53.0%
HP.1.1.1.1	Referral hospitals	10.0%	13.7%	10.8%	11.5%
HP.1.1.1.2	District hospitals	11.4%	16.4%	17.4%	15.1%
HP.1.1.1.3	Primary hospitals	5.3%	6.7%	6.6%	6.2%
HP.1.1.2	Private not-for-profit hospitals	4.5%	4.7%	13.7%	7.6%
HP.1.1.3	Private for-profit hospitals	12.5%	12.8%	12.2%	12.5%
HP.1.2	Specialty hospitals	1.1%	0.9%	0.8%	0.9%
HP.3.4.5.2 HP.3.4.5.3	Health clinics and health posts	9.4%	9.8%	9.6%	9.6%
HP.3	Providers of ambulatory (less health clinics and health posts)	5.9%	6.1%	3.8%	5.3%
HP.4.2	Retail sale of medical goods	2.9%	2.9%	4.0%	3.3%
HP.5	Provision and administration of prevention and public health	9.5%	7.6%	9.2%	8.7%
HP.6	General health administration	23.3%	17.1%	10.9%	17.1%
	All other providers	4.2%	1.4%	1.0%	2.18%

Source: Botswana NHA tables 2010

Table 10 shows the distribution of THE by levels of care from 2007/08 to 2009/10. Secondary care was clearly the largest consumer of health care resources at an average of 35.2 percent of THE, while primary health care was second, at an average of 24.3 percent. General health administration came third at an average of 17.1 percent of THE and tertiary care came fourth at an average of 12.5 percent. Efficient resource allocation requires that more resources be spent on primary care, which is in line with the Alma Alta Declaration. Furthermore, the level of spending received by providers of general health administration was high on average, siphoning resources that could be used for primary care; however, in 2009/10, spending on general health administration declined due to the restructuring of MOH functions, which could be described as an efficient way of reallocating health spending. Compounding the overall situation is the fact that providers and administrators of prevention and public health services received an average of 8.7 percent of THE during the period under review. This signifies inefficiency in the allocation of health resources as it is not in line with the recommended primary health care models.

TABLE 10: DISTRIBUTION OF TOTAL HEALTH EXPENDITURE BY LEVEL OF CARE, 2007/08-2009/10

Level of Care		2007/08	2008/09	2009/10	Average 2007/08-2009/10
Tertiary Care	Referral hospitals	10.0%	13.7%	10.8%	11.5%
	Specialty hospitals	1.1%	0.9%	0.8%	0.9%
	Sub-total	11.1%	14.6%	11.6%	12.5%
Secondary Care	District hospitals	11.4%	16.4%	17.4%	15.1%
	Private not-for-profit hospitals	4.5%	4.7%	13.7%	7.6%
	Private-for-profit hospitals	12.5%	12.8%	12.2%	12.5%
	Sub-total	28.4%	33.9%	43.4%	35.2%
Primary Care	Primary hospitals	5.3%	6.7%	6.6%	6.2%
	Health clinics and health posts	9.4%	9.8%	9.6%	9.6%
	Providers of ambulatory (less health clinics and health posts)	5.9%	6.1%	3.8%	5.3%
	Retail sale of medical goods	2.9%	2.9%	4.0%	3.3%
	Sub-total	23.5%	25.5%	24.0%	24.3%
	Provision and administration of prevention and public health	9.5%	7.6%	9.2%	8.7%
	General health administration	23.3%	17.1%	10.9%	17.1%
	All other providers	4.2%	1.4%	1.0%	2.2%
	Total	100.0%	100.0%	100.0%	100.0%

Source: Botswana 2010 NHA Tables

5.2.4 HEALTH CARE FUNCTIONS

Policy questions:

- On what where health funds spent in the Botswana health system?
- How efficiently are resources between functions allocated in the Botswana health system?

Health care functions are services or activities delivered by health providers. These include services of curative care (inpatient, outpatient, rehabilitative, etc.), prevention and public health services, general administration of health, and others.

Over half of THE during the period under review were on services of curative care (outpatient and inpatient), an average of 58.6 percent of THE (see Table 11). General health administration as a function came second at an average of 12.5 percent, while spending on capital goods came third at an average of 11.2 percent. Prevention and public health services as a function consumed only 8.7 percent of THE, with HIV/AIDS prevention and public health alone consuming the majority of these (an average of 5 percent of THE), thus leaving 3.7 percent of THE for all other prevention and public health services. According the World Bank (1994), it has been argued that spending on prevention and public health programs is more cost-effective than spending on curative care services. Thus more resources in the Botswana health system need to be spent on prevention and public health services especially in light of Botswana's epidemiological profile, with its high level of communicable diseases such as diarrhea, which could be prevented with simple technologies.

TABLE 11: DISTRIBUTION OF THE BY HEALTH CARE FUNCTION, 2007/08-2009/10

ICHA Code	Health Care Function	2007/08	2008/09	2009/10	Average 2007/08-2009/10
HC.1	Services of curative care	55.3%	64.0%	56.6%	58.6%
HC.1.1	Inpatient	27.1%	34.9%	30.7%	30.9%
HC.1.3	Outpatient	28.2%	29.1%	25.9%	27.7%
HC.2	Services of rehabilitative care	0.4%	0.6%	0.6%	0.5%
HC.6	Prevention and public health services	9.5%	7.5%	9.1%	8.7%
HC.6.1	Maternal and child health, family planning and counseling (sexual reproductive health)	0.1%	0.1%	0.2%	0.2%
HC.6.2	School health services	0.1%	0.2%	0.1%	0.1%
HC.6.3.2	Prevention of TB	0.0%	0.0%	0.1%	0.0%
HC.6.3.3	Prevention of HIV/AIDS	7.1%	3.2%	4.6%	5.0%
HC.6.3.9	All other prevention and public health services	2.1%	4.0%	4.1%	3.4%
HC.7	Health administration and health insurance	14.0%	16.2%	7.4%	12.5%
HC.R.1	Capital formation of health providers	13.0%	3.8%	16.7%	11.2%
	All other health care functions	7.9%	7.9%	9.6%	8.5%

Source: Botswana NHA tables 2010

5.3 NATIONAL EXPENDITURE ON HEALTH

National expenditure on health (NHE) includes THE (expenditure with the primary objective to enhance, maintain, and restore the health of individuals and population groups) and expenditure on health-related functions, which in the context of this study include education and training of health personnel; research and development in health; food, hygiene, and drinking water control; and environmental health.³

Over the three years studied, expenditure on health-related functions was US\$26.73, US\$53.44, and US\$18.76 per capita, while NHE rose from US\$407.27 per capita per annum in 2007/08 to US\$463.42 in 2009/10 (see Table 3).

Expenditure on research and development in health constituted an average of less than 1 percent of NHE. This is less than the 1990 recommendation of the Commission on Health Research for Development, which called on governments in low- and middle-income countries to allocate at least 2 percent of the national health budget to essential national health research. This is likely to adversely affect evidence-based policymaking and practice in Botswana.

5.4 SUB-HEALTH SECTOR ANALYSIS: MINISTRY OF HEALTH

5.4.1 DISTRIBUTION OF MOH EXPENDITURE BY LEVEL OF CARE

Policy question:

- How efficiently are resources allocated between levels of care in the MOH?

Table 12 shows the distribution of MOH expenditure by provider type. It can be clearly seen that the MOH funds a hospital-based health care system. An average of 71.6 percent of all MOH expenditures occurred at hospitals, including referral, district, primary, and mission hospitals.

It should be noted that the major causes of morbidity and mortality in Botswana can be prevented and treated at health clinics, health posts, and dispensaries through the provision of the EHSP and intensified prevention and public health programs. As can be seen in Table 12, MOH spending on prevention and public health programs is extremely low, an average of 4 percent of total MOH expenditures during the period under review.⁴ Thus the current high allocation of resources to hospital-level care is considered inefficient because the hospital cost per unit of service is typically higher than the same service delivered in an outpatient facility. Also, Botswana has invested in expanding the number of facilities so that 95 percent of the total population (89 percent of the rural population) lives within 8 kms of a health facility. This achievement will fail to generate the expected return in investment if patients bypass the closest facility. This allocation pattern is also considered inequitable if hospitals are less accessible to poor populations. This may be a reflection of resources following infrastructure, but it creates a negative cycle of underfunding outpatient facilities, which reduces quality, encourages bypassing to hospitals, and increases hospitals' demand for resources. As such, there is need to develop clear resource allocation criteria that take into account the health needs of the population.

³Capital formation of health care provider institutions is included in THE.

⁴It would have been ideal to compare Botswana MOH spending on prevention and public health with countries with similar GDPs and health outcomes. However, such data are not readily available. Compounding the situation is the fact that the health of an individual is a function of several variables and health care is just one of them. As such, it is grossly misleading to set the benchmark for health financing in a particular country based on the health financing policies/decisions of other countries (WHO 2010). National health financing reforms should be undertaken after a thorough diagnosis of the local conditions on epidemiology, cost-effectiveness of interventions, desired level of health status, price of goods and services, resource envelope available in the country, equity concerns, efficiency of the health system, priorities of the country, and so forth.

TABLE 12: DISTRIBUTION OF MOH RECURRENT EXPENDITURE BY HEALTH PROVIDER TYPE, 2007/08-2009/10

Health Care Provider	2007/08	2008/09	2009/10	2009/10
	61.5%	80.9%	72.5%	71.6%
HP.1.1.1.1 Referral Hospitals	23.1%	29.4%	24.5%	25.7%
HP.1.1.1.2 District Hospitals	20.6%	32.3%	29.1%	27.3%
HP.1.1.1.3 Primary Hospitals	12.1%	14.2%	14.9%	13.8%
HP.1.1.2 Private Not-for-Profit Hospitals	5.7%	5.0%	4.0%	4.9%
HP.3.5 Medical and Diagnostic Laboratories	3.2%	2.5%	2.5%	2.7%
HP.5 Provision and administration of public health programs	3.6%	3.9%	4.4%	4.0%
HP.6 General Administration of Health	29.6%	11.2%	19.0%	19.9%
Providers not specified by kind	2.1%	1.6%	1.7%	1.8%
	100.0%	100.0%	100.0%	100.0%

Source: Botswana NHA tables 2010

5.4.2 DISTRIBUTION OF MOH EXPENDITURE BY FUNCTION

Policy question:

- How efficiently are resources allocated between functions in the MOH?

Table 13 shows that MOH spending on curative health care services increased substantially, from 60.4 percent in 2007/08 to a high of 78.6 percent in 2008/09 before falling to 71.7 percent in 2009/10. On average, a total of 70.2 percent of MOH expenditure was on services of curative care during the period under review of which 51 percent was on inpatient services and only 18.5 percent was on outpatient services. It has been observed that more spending on outpatient services and on prevention and public health services is regarded as an efficient allocation of resources (World Bank 1994, WHO 2010). This is because the benefits of curative care accrue to the individual and not to the general population (i.e., curative care is less of a public good than prevention or public health). It is therefore reasonable, depending on the economic situation of users, that curative care be financed from private sources such as through health insurance or direct OOP payments.

TABLE 13: DISTRIBUTION OF MOH RECURRENT EXPENDITURE BY HEALTH CARE FUNCTION, 2007/08-2009/10

Health Care Function	2007/08	2008/09	2009/10	Average 2007/08-2009/10
HC.1 Services of curative care	60.4%	78.6%	71.7%	70.2%
HC.1.1 Inpatient	43.8%	57.7%	53.8%	51.7%
HC.1.3 Outpatient	16.7%	20.9%	17.9%	18.5%
HC.2 Services of rehabilitative care	1.0%	1.1%	1.2%	1.1%
HC.6 Prevention and public health services	3.6%	3.8%	4.4%	3.9%
HC.6.1 Maternal and child health, family planning and counseling (sexual reproductive health)	0.3%	0.3%	0.4%	0.3%
HC.6.2 School health services	0.0%	0.1%	0.0%	0.0%
HC.6.3.2 Prevention of TB	0.1%	0.0%	0.0%	0.0%
HC.6.3.3 Prevention of HIV/AIDS	0.7%	0.0%	0.4%	0.4%
HC.6.3.9 All other prevention and public health services	2.5%	3.5%	3.5%	3.1%
HC.7 Health administration and health insurance	7.6%	9.2%	11.4%	9.4%
HCR.1 Capital formation of health providers	26.8%	4.3%	10.8%	13.9%
All other health care functions	0.6%	3.0%	0.6%	1.4%

Source: Botswana NHA tables 2010

5.4.3 DISTRIBUTION OF MOH EXPENDITURE BY INPUT CATEGORIES

Policy question:

- How efficiently are resources allocated between inputs in the MOH?

Table 14 shows that MOH spending on salaries increased substantially from 38.2 percent in 2007/08 to 45.2 percent in 2008/09, before falling slightly to 44.4 percent in 2009/10, an average of 42.6 percent over the period. MOH expenditure on drugs/pharmaceuticals decreased slightly, from 12.4 percent in 2007/08 to 11.5 percent in 2008/09, and then significantly, to 8.5 percent in 2009/10. The average MOH expenditure incurred on drugs/pharmaceuticals during the period was 10.8 percent.

TABLE 14: DISTRIBUTION OF MOH EXPENDITURE BY INPUT CATEGORIES, 2007/08-2009/10

Health Care Inputs	2007/08	2008/09	2009/10	Average 2007/08-2009/10
Salaries	38.2%	45.2%	44.4%	42.6%
Drugs/pharmaceuticals (excluding HIV/AIDS drugs)	12.4%	11.5%	8.5%	10.8%
Total MOH expenditure on drugs and salaries	50.7%	56.6%	52.9%	53.4%
All other inputs (i)*	49.3%	43.4%	47.1%	46.6%

Source: Botswana NHA tables 2010

Note: *(i) The main item included in "all other Inputs" is capital formation (buildings and equipment).

Over the three years under review, more than half of the MOH expenditure was attributed to salaries and drugs, at an average of 53.4 percent. This pattern of spending is not surprising in light of the fact that Botswana's health service provision is highly curative, and curative care (particularly inpatient care) needs more highly skilled trained health workers and more expensive drugs than do outpatient and prevention and public health services.

6. SUMMARY, POLICY IMPLICATIONS, AND CONCLUSION

6.1 SUMMARY OF FINDINGS

The results of the Botswana NHA 2010 reveal important major findings. These include the increase in THE from more than BWP 4.0 billion (US\$660.8 million) to BWP 5.3 billion (US\$789.9 million), representing a growth of 30 percent and 5.3 percent and 6.3 percent of GDP. Per capita THE was US\$380.53 and US\$444.66 in 2007/08 and 2009/10, respectively. This is one of the highest among countries in SADC and the WHO Africa region.

The government of Botswana is the major source of health funds, accounting for 67.3 percent, 68.4 percent, and 68.1 percent of THE over the three years of the study (an average of 67.9 percent of THE). Private sources came second at an average of 20.6 percent, while donors came last at an average of 11.5 percent. This encourages the belief that the Botswana health system is highly sustainable. However, the system could face serious problems if there are shocks – such as the global economic downturn starting in 2008 – to the macroeconomic environment. As such, there is a strong need to develop and implement alternative complementary health care financing mechanisms such as social health insurance and medical savings accounts.

Households are the major source of private health funds (65 percent) through their contribution to medical aid schemes, while private companies and parastatals contribute an average of 35 percent. These findings reinforce the desire by the government to introduce social health insurance such that all employers are mandated to provide health insurance for their employees and are encouraged to fund other health care activities as part of their corporate social responsibility.

The major financing agent in Botswana during the period under review was the MOH, which controlled an average of 43.6 percent of THE. Medical aid schemes such as BPOMAS, BOMAID, and PULA were the second major financing agents, managing an average of 11.3 percent of THE. NACA came third, controlling about 10.8 percent. Household direct OOP payments averaged of 4.2 percent, one of the lowest levels of direct household OOP spending in the WHO Africa region and around the globe. Such low OOP spending relative to THE makes it unlikely that health expenditures will be catastrophic and deny the poor access to health care services.

The majority of private funds are managed by private health insurance schemes known as medical aid schemes. However, multiple schemes in a country with a small population like Botswana's make it likely there will be a duplication of efforts, increased administrative and information systems costs, and inequities in access to and utilisation of health care services. Thus it might be ideal to pool the schemes into a single social health insurance program.

Overall, hospitals accounted for the greatest proportion of THE, an average of 53 percent during the years under review. Among the general hospitals, district hospitals were the largest recipient of health funds (15.1 percent), with referral hospitals coming second (11.5 percent). Provision of general administration of health came second (17.1 percent) followed by provision and administration of prevention and public health programs (8.7 percent). These figures make the Botswana health system a hospital-oriented system, with relatively few resources spent on prevention and public health programs. This pattern of spending conflicts with the primary care principle upheld by the government. There is need to shift resources toward provision of

prevention and public health programs, especially because most diseases in Botswana are preventable communicable diseases such as diarrhea.

Over half of THE (58.6 percent) during the period under review was on outpatient and inpatient curative care services. General health administration as a function came second (12.5 percent), while spending on capital goods came third (11.2 percent). Prevention and public health services as a function consumed only 8.6 percent of THE. Echoing what was said in the preceding paragraph, on service provision, this level of spending is not in line with the primary health care principle of Botswana's government. More resources need to be spent on prevention and public health services.

6.2 POLICY IMPLICATIONS AND RECOMMENDATIONS

The following study findings have policy implications for Botswana:

- **More than adequate total health resources, in particular, resources funded and managed by the public sector, to fund a minimum package of cost-effective interventions:** Much as raising additional revenues options could be pursued, inadequacy of resources is not a major challenge in the Botswana health system. Instead, the government needs to seriously address issues of efficiency and equity in resource allocation between levels of care, functions, and so forth.
- **Government is a major source of health funds through general tax revenues, in particular international trade, which is vulnerable to external shocks:** Government needs to investigate the potential and feasibility of developing alternative financing mechanisms for health such as social health insurance and medical savings accounts, and sustain the “sin taxes” on alcohol and tobacco and earmark them for health.
- **Low contribution to THE by employers (private companies and parastatals):** To improve sustainability and equity, employers should increase their contribution to health through establishment of mandatory health insurance for the formal sector and provision of onsite health facilities for employees and dependents' benefits, and by lobbying with employers to fund more health activities as part of their social responsibility.
- **Multiple health insurance schemes serving different sectors and population groups:** To improve efficiency, the multiple risk pools should be consolidated into one pool so as to avoid duplication of effort and costs of administration and information systems. This could be the starting point for establishing a social health insurance scheme.
- **Donor funding of NGOs off budget:** To improve efficiency, effectiveness, and sector coordination, Botswana should establish a sector-wide approach with pooled or discreet funding and a common planning, and monitoring and evaluation framework.
- **The majority of health resources consumed by hospitals and providers of general health administration:** Government and all stakeholders need to seriously consider reallocation of health resources to primary health care facilities and services and in particular to providers of prevention and public health programs.
- **The majority of resources spent on curative health care services and general administration with little spent on prevention and public health services:** There is a strong need to examine the organisation of prevention and public health services programs and thereafter reallocate resources to prevention and public health services.
- **Centralised MOH budgeting and resource allocation:** There is a need to create separate cost centres for each referral hospital, district hospital, primary hospital, and headquarters and develop a resource allocation formula that takes into account the health needs of different population groups weighted by other factors that affect service delivery.

- **Reluctance of stakeholders to provide health expenditure data:** Government through the MOH should sensitise health stakeholders to the relevance of NHA in health policy design and monitoring and evaluation of health services and programs, and develop legislation that mandates stakeholders to provide health expenditure data.

6.3 RECOMMENDATIONS FOR FURTHER ANALYSIS

The NHA findings point to potential equity and efficiency problems and opportunities that merit further analysis to guide policy solutions.

1. BIA is an analytical tool to examine which segments of a population benefit from health care expenditures. BIA computes the distribution of public and donor expenditures across different demographic groups, such as income groups, or by gender. BIA can reveal how effectively governments/donors are able to target their limited resources toward meeting the needs of specific target groups, such as the poor.
2. Fiscal space analysis measures the availability of budgetary room that allows the government to provide resources for a desired purpose (such as health) without prejudice to the sustainability of the country's financial position. This analysis would be expected as part of assessing the feasibility of a national health insurance program.
3. Productivity analysis of outpatient facilities would gauge the severity of the bypassing problem and its implications for efficiency. Are there some low-quality, empty public facilities that represent such a drain on limited government resources that some should be considered for closure or lease to a private provider?

6.4 CONCLUSION

The Botswana 2010 NHA results show that government is the major source of health financing in Botswana and its role in health financing increased substantially during the period under review. Private sources are the second largest source of health funds with donors coming last. The MOH manages the majority of health funds, which means that it has a big role to play in ensuring that resources are efficiently and equitably distributed. In addition, hospitals consume the greatest proportion of THE. This hospital-based curative care is an inefficient allocation of resources – it is very expensive as compared with the primary health care, and most of the health conditions attended to at hospitals could be served at primary-level facilities. Similarly, curative care is more expensive than preventive health care. Because preventive health care interventions have proved to be more cost-effective than curative ones, there is need to reallocate some of the resources in the Botswana health system to primary health care facilities (currently 15 percent of THE) and to prevention and public health services (currently 8.7 percent of THE).

ANNEX A. NHA TABLES 2007/2008

FINANCING SOURCES BY FINANCING AGENTS (FSXHF) 2007/2008

FINANCING AGENTS	FINANCING SOURCES								Grand Total	%of THE	% of NHE
	FS.1.1.1.1 - Ministry of Finance and Development Planning	FS.2.1 - Employer funds	FS.2.2 - Household funds	Profit institutions serving individuals (National)	FS.3.1 - Bilateral cooperation	FS.3.2 - Multilateral cooperation	FS.3.3 - International NGOs				
HF.1.1.1.1 - Ministry of Health	1 698 438 185								1 698 438 185	41.9%	39%
HF.1.1.1.2 - National AIDS Coordinating Agency (NACA)	412 558 432				154 968 580	811 695	16 520 588		584 859 295	14.4%	13%
HF.1.1.1.4 - Ministry of Defense and Security (formerly Min. of State President)	18 334 404								18 334 404	0.5%	0%
HF.1.1.1.5 - Ministry of Education	646 950								646 950	0.0%	0%
HF.1.1.1.9 - Other Ministries	8 153 047								8 153 047	0.2%	0%
HF.1.1.3 - Local/Municipal Government	355 472 494								355 472 494	8.8%	8%
HF.2.1 - Private Social Insurance (Botswana Public Officers Medical Aid Scheme - BPOMAS)	171 344 474		171 344 474						342 688 947	8.5%	8%
HF.2.2 - Other Private Insurance (Medical Aid Schemes - BOMAID, PULA)		193 810 464	197 640 628						391 451 092	9.7%	9%
HF.2.3 - Household Out-of-Pocket Payments			157 855 926						157 855 926	3.9%	4%
HF.2.4 - Non-profit institutions serving households (National NGOs)	62 467 353			4 325 185	3 242 466	6 103 660	18 891 734		95 030 400	2.3%	2%
HF.2.5 - Private Firms and Corporations (other than Health Insurance)		33 164 335							33 164 335	0.8%	1%
HF.3.1 - Bilateral Cooperation					157 216 748				157 216 748	3.9%	4%
HF.3.2 - Multilateral Cooperation						8 707 485			8 707 485	0.2%	0%
HF.3.3 - International NGOs					76 748 658	9 021 184	115 939 644		201 709 486	5.0%	5%
Grand Total-THE	2 727 415 338	226 974 799	526 841 027	4 325 185	392 176 452	24 644 025	151 351 967		4 053 728 794	100.0%	93%
% of Total- THE	67.3%	5.6%	13.0%	0.1%	9.7%	0.6%	3.7%		100.0%		0.0%
Financing agents spending on health related functions	255 327 210				9 117 617	45 638	20 304 132		284 794 597		7%
NHE	2 982 742 549	226 974 799	526 841 027	4 325 185	401 294 069	24 689 663	171 656 099		4 338 523 391		100%
% of Total -NHE	68.8%	5.2%	12.1%	0.1%	9.2%	0.6%	4.0%		100.0%		

FINANCING AGENTS BY HEALTH CARE PROVIDERS (HFXHP) 2007/2008

HEALTH PROVIDER	FINANCING AGENT														Grand Total	% of Total THE	% of Total NHE
	HF.1.1.1.1 - Ministry of Health	HF.1.1.1.2 - National AIDS Coordinating Agency (NACA)	HF.1.1.1.4 - Ministry of Defense and Security (formerly Min. of State President)	HF.1.1.1.5 - Ministry of Education	HF.1.1.1.9 - Other Ministries	HF.1.1.3 - Local/Municipal Government	Private Social Insurance (Botswana Public Officers Medical Aid Scheme -	Private Insurance (Medical Aid Schemes - BOMAID, PULA)	HF.2.3 - Household Out-of-Pocket Payments	profit institutions serving households (National NGOs)	HF.2.5 - Private Firms and Corporations (other than Health Insurance)	HF.3.1 - Bilateral Cooperation	HF.3.2 - Multilateral Cooperation	HF.3.3 - International NGOs			
HP.1.1.1.1 - Referral Hospitals	391 841 831	3 251 940					3 368 000	1 235 265						6 758 435	406 455 471	10.0%	9%
HP.1.1.1.2 - District Hospitals	349 655 963	111 142 914						1 131 849	1 391 816					40 445	463 362 987	11.4%	11%
HP.1.1.1.3 - Primary Hospitals	206 257 204		8 611 212					536 139							215 404 555	5.3%	5%
HP.3.4.5.2 - Health Clinics		5 338 774	8 101 000			343 470 361	3 830 163					61 350	20 575 769	381 377 417	9.4%	9%	
HP.3.4.5.3 - Health Posts						9 929								9 929	9 929	0.0%	0%
HP.1.1.2 - Private Not-for-profit Hospitals	96 652 372						6 842 935	15 644 124		62 356 678					181 496 109	4.5%	4%
HP.1.1.3 - Private (for profit) Hospitals							145 851 947	269 201 126	92 947 355						508 000 428	12.5%	12%
HP.3.9.1 - Ambulance Services	9 108 943						1 680 000	9 100 000							19 888 943	0.5%	0%
HP.3.9.2 - Blood transfusions	472 208														472 208	0.0%	0%
HP.3.9.3 - Alternative or Traditional Practitioners									10 765 955						10 765 955	0.3%	0%
HP.3.9.9 - All other ambulatory health care services										17 129 030			19 677	17 148 707	0.4%	0%	
HP.1.3 - Other specialty hospitals							36 106 605	8 251 568							44 358 173	1.1%	1%
HP.3.2 - Offices of Dentists (Private Dentists)							14 617 994	4 308 287	5 894 408						24 820 689	0.6%	1%

HP.3.3 - Offices of Other Health Practitioners (physiotherapists, optometrists, etc.)										3 605 635					3 605 635	0.1%	0%
HP.3.5 - Medical and Diagnostic Laboratories	53 563 299	60 074 436					26 329 293	9 018 411	7 293 161				375 565	156 654 164	3.9%	4%	
HP.4.1 - Dispensing Chemists							58 586 405	14 364 405	3 931 019					76 881 829	1.9%	2%	
HP.4.2 - Retail sales and other suppliers of optical glasses and other vision products							14 584 211	12 249 203	13 643 758					40 477 172	1.0%	1%	
HP.5 - Provision and administration of public health programmes	61 666 999	169 213 102	1 622 192	646 950	7 731 588	11 992 204		5 900 000		30 008 645	823 803	6 054 074	88 294 581	383 954 138	9.5%	9%	
HP.6.1 - General Administration of Health	502 956 307	90 958 167											159 277	594 073 751	14.7%	14%	
HP.6.3 - Other social insurance							38 089 557	15 615 805						53 705 362	1.3%	1%	
HP.6.4 - Other private insurance								20 600 000						20 600 000	0.5%	0%	
HP.6.9 - All other providers of health administration	847 134	26 741 904			421 459					2 554 402		157 216 748	2 592 062	84 639 318	275 013 027	6.8%	6%
HP.nsk - Providers not specified by kind	25 415 925	118 138 059								15 590 240		15 211 502		846 418	175 202 144	4.3%	4%
Grand Total-THE	1 698 438 185	584 859 295	18 334 404	646 950	8 153 047	355 472 494	342 688 947	391 451 092	156 574 785	96 311 540	33 164 335	157 216 748	8 707 485	201 709 486	4 053 728 794	100.0%	93%
% of Total-THE	42%	14%	0%	0%	0%	9%	8%	10%	4%	2%	1%	4%	0%	5%	100%		0%
HP.8.1 - Research Institutions	3969049	1 240 317											7 897 885	13107251.02			0%
HP.8.2 - Education and Training Institutions	26970617	9 655 730				381 359				79 162			45 638	12 415 694	49548200.29		1%
HP.8.3 - Other institutions providing health related services	1279726	114 792 185				106 034 623								32 612	222139145.4		5%
Total-HCR	32219392	125688231.9	0	0	0	106415982.1	0	0	0	79161.96	0	0	45637.85	20346190.96	284794596.7		7%
Total-NHE	1 730 657 577	710 547 527	18 334 404	646 950	8 153 047	461 888 476	342 688 947	391 451 092	156 574 785	96 390 702	33 164 335	157 216 748	8 753 123	222 055 677	4 338 523 391		100%
% of Total-NHE	40%	16%	0%	0%	0%	11%	8%	9%	4%	2%	1%	4%	0%	5%	100%		

FINANCING AGENTS HEALTH CARE FUNCTIONS (HFXHC) 2007/2008

HEALTH CARE FUNCTION	FINANCING AGENTS														Grand Total	% of THE	% of NHE	
	HF.1.1.1.1 - Ministry of Health	HF.1.1.1.2 - National AIDS Coordinating Agency (NACA)	HF.1.1.1.4 - Ministry of Defense and Security	HF.1.1.1.5 - Ministry of Education	HF.1.1.1.9 - Other Ministries	HF.1.1.3 - Local/Municipal Government	HF.2.1 - Private Social Insurance (Botswana Public Officers)	HF.2.2 - Other Private Insurance (Medical Aid Schemes - BOMAID, PULA)	HF.2.3 - Household Out-of-Pocket Payments	HF.2.4 - Non-profit institutions serving households	HF.2.5 - Private Firms and Corporations (other than)	HF.3.1 - Bilateral Cooperation	HF.3.2 - Multilateral Cooperation	HF.3.3 - International NGOs				
HC.1.1 - Inpatient curative care	743 306 813	41 976 834	8 611 212				95 042 946	97 492 433	70 908 148	37 777 865				3 271 132	1 098 387 384	27.1%	25%	
HC.1.3 - Outpatient curative care	282 945 556	188 940 385	3 301 000				341 670 212	95 247 281	119 417 272	60 798 698	12 373 593		61 350	5 109 263	1 142 205 142	28.2%	26%	
HC.2 - Services of rehabilitative care	16 835 675														16 835 675	0.4%	0%	
HC.4.1 Clinical Laboratories	901 064	56 366 454						19 155 754	4 667 161						81 090 433	2.0%	2%	
HC.4.2 - Medical imaging								7 173 539	4 351 250	7 293 161					18 817 950	0.5%	0%	
HC.4.3 - Patient transport and emergency rescue	9 108 943							1 680 000	9 100 000						19 888 943	0.5%	0%	
HC.5.1.1 - Prescribed medicines								58 586 405	84 336 405						142 922 810	3.5%	3%	
HC.5.1.2 - Over the counter medicines										3 931 019					3 931 019	0.1%	0%	
HC.5.2.1 - Glasses and vision products								14 584 211	12 249 203	13 643 758					40 477 172	1.0%	1%	
HC.6.1 Maternal and Child health, Family Planning and Counselling (sexual reproductive health)	5 675 964														5 675 964	0.1%	0%	
HC.6.2 - School Health Services	553 955	2 531 969					592 757								3 678 681	0.1%	0%	
HC.6.3.2 - Prevention of TB	1 650 953														1 650 953	0.0%	0%	
HC.6.3.3 - Prevention of HIV/AIDS	11 865 839	161 708 973	285 783	646 950	7 731 588			5 900 000		30 008 645	823 803		1 180 099	65 682 632	285 834 311	7.1%	7%	
HC.6 - Prevention and Public Health Services	41 796 827	4 903 451	1 332 459				11 399 447						4 873 975	22 611 949	86 918 109	2.1%	2%	
HC.7.1.1 - General government administration of health (except social security)	128 414 597	90 317 229												159 277	218 891 103	5.4%	5%	
HC.7.2.1 - Health administration and health insurance: social insurance								3 856 816	15 615 805						19 472 621	0.5%	0%	
HC.7.2.2 - Health administration and health insurance: Other private	847 134	26 881 675			421 459			34 232 741	20 600 000		2 554 402		157 216 748	2 592 062	84 639 318	329 985 539	8.1%	8%
HC.nsk - Expenditures not specified by kind								6 286 319	2 077 439		1 906 029				822 927	11 092 714	0.3%	0%
HC.R.1 - Capital Formation for Health Care Providers Institutions	454 534 865	11 232 324	4 803 950				1 810 078	6 842 935	15 644 124		11 691 007				19 412 988	525 972 270	13.0%	12%
Grand Total-THE	1 698 438 185	584 859 295	18 334 404	646 950	8 153 047	355 472 494	342 688 947	391 451 092	156 574 785	96 311 540	33 164 335	157 216 748	8 707 485	201 709 486	4 053 728 794	100.0%	93%	
% of Total-THE	42%	14%	0%	0%	0%	9%	8%	10%	4%	2%	1%	4%	0%	5%	100%		0%	
HC.R.2 - Education and Training of Health Personnel	26 970 617	9 655 730					381 359			79 162			45 638	12 415 694	49 548 200		1.1%	
HC.R.3 - Research and Development in Health	3 969 049	1 240 317												7 897 885	13 107 251		0.3%	
HC.R.4 - Food, Hygiene and Drinking Water Control	49 801	114 792 185												32 612	114 874 598		2.6%	
HC.R.5 - Environmental Health	1 229 925						106 034 623								107 264 548		2.5%	
Total-HCR	32 219 392	125 688 232					106 415 982						45 638	20 346 191	284 794 597		6.6%	
Total-NHE	1 730 657 577	710 547 527	18 334 404	646 950	8 153 047	461 888 476	342 688 947	391 451 092	156 574 785	96 390 702	33 164 335	157 216 748	8 753 123	222 055 677	4 338 523 390	100%	100%	
% of Total-NHE	40%	16%	0%	0%	0%	11%	8%	9%	4%	2%	1%	4%	0%	5%	100%			

ANNEX B. NHA TABLES 2008/2009

FINANCING SOURCES BY FINANCING AGENTS (FSXHF) 2008/2009

FINANCING AGENT	SOURCE OF FUNDS								
	FS.1.1.1.1 - Ministry of Finance and Development Planning	FS.2.1 - Employer funds	FS.2.2 - Household funds	FS.2.3 - Non Profit institutions serving individuals (National NGOs)	FS.3.1 - Bilateral cooperation	FS.3.2 - Multilateral cooperation	FS.3.3 - International NGOs	Grand Total	
HF.1.1.1.1 - Ministry of Health	2 024 869 543							2 024 869 543	45.6%
HF.1.1.1.2 - National AIDS Coordinating Agency (NACA)	256 668 008				112 954 610		12 665 966	382 288 584	8.6%
HF.1.1.1.4 - Ministry of Defense and Security (formerly Min. of State President)	18 916 822							18 916 822	0.4%
HF.1.1.1.9 - Other Ministries	7 628 280							7 628 280	0.2%
HF.1.1.3 - Local/Municipal Government	461 160 376							461 160 376	10.4%
HF.2.1 - Private Social Insurance (Botswana Public Officers Medical Aid Scheme - BPOMAS)	181 385 206	181 385 206						362 770 412	8.2%
HF.2.2 - Other Private Insurance (Medical Aid Schemes - BOMAID, PULA)		220 716 325	225 219 000					445 935 325	10.0%
HF.2.3 - Household Out-of-Pocket Payments			186 013 584					186 013 584	4.2%
HF.2.4 - Non-profit institutions serving households (National NGOs)	88 534 469			1 041 212	320 617	306 000	20 061 245	110 263 543	2.5%
HF.2.5 - Private Firms and Corporations (other than Health Insurance)		31 015 581						31 015 581	0.7%
HF.3.1 - Bilateral Cooperation					177 734 700			177 734 700	4.0%
HF.3.2 - Multilateral Cooperation						7 582 788		7 582 788	0.2%
HF.3.3 - International NGOs					128 910 031		96 872 338	225 782 369	5.1%
Grand Total-THE	3 039 162 704	433 117 111	411 232 584	1 041 212	419 919 958	7 888 788	129 599 549	4 441 961 906	100.0%
	68.4%	9.8%	9.3%	0.0%	9.5%	0.2%	2.9%	100.0%	
Financing Agents Spending on Health Care Related Functions	615 113 997.79			15 000.00	9 043 318.42		10 424 362.44	634 596 678.65	
Total NHE	3 654 276 702.08	433 117 111.22	411 232 583.76	1 056 212.00	428 963 276.44	7 888 787.55	140 023 911.38	5 076 558 584.42	
	72.0%	8.5%	8.1%	0.0%	8.4%	0.2%	2.8%	100.0%	

FINANCING AGENTS BY HEALTH CARE PROVIDERS (HFXHP) 2008/2009

HP- Provider	HF.1.1.1.1 - Ministry of Health	HF.1.1.1.2 - National AIDS Coordinating Agency (NACA)	HF.1.1.1.4 - Ministry of Defense and Security (formerly Min. of State President)	HF.1.1.1.9 - Other Ministries	HF.1.1.3 - Local/Municipal Government	HF.2.1 - Private Social Insurance (Botswana Public Aid Scheme - BPOMAS)	HF.2.2 - Other Private Insurance (Medical Aid Schemes - BOMAID, PULA)	HF.2.3 - Household Out-of-Pocket Payments	HF.2.4 - Non-profit institutions serving households (National NGOs)	HF.2.5 - Private Firms and Corporations (other than Health Insurance)	HF.3.1 - Bilateral Cooperation	HF.3.2 - Multilateral Cooperation	HF.3.3 - International NGOs	Grand Total
HP.1.1.1.1 - Referral Hospitals	594 893 435	3 520 631					2 646 200	1 575 691					4 775 279	607 411 236
HP.1.1.1.2 - District Hospitals	653 150 443	70 925 959						1 330 583	2 548 771				19 338	727 975 094
HP.1.1.1.3 - Primary Hospitals	288 451 010		8 611 212					630 276						297 692 498
HP.3.4.5.2 - Health Clinics		4 514 224	8 101 000		393 132 510		4 502 676					27 064	22 915 272	433 192 745
HP.1.1.2 - Private Not-for-profit Hospitals	101 648 530					-	38 544 940		68 200 715					208 394 185
HP.1.1.3 - Private (for profit) Hospitals						168 949 721	290 856 037	109 686 623						569 492 381
HP.3.9.1 - Ambulance Services	10 411 314	2 368 065				-	12 200 000							24 979 379
HP.3.9.3 - Alternative or Traditional Practitioners								12 656 277						12 656 277
HP.3.9.9 - All other ambulatory health care services										23 523 324				23 523 324
HP.1.3 - Other specialty hospitals						33 009 389	8 601 538							41 610 927
HP.3.1 - Offices of Physicians (Private Practitioners)								6 929 368						6 929 368
HP.3.2 - Offices of Dentists (Private Dentists)						16 716 639	4 420 815							21 137 454
HP.3.3 - Offices of Other Health Practitioners (physiotherapists, optometrists, etc.)								4 238 725						4 238 725
HP.3.5 - Medical and Diagnostic Laboratories	50 872 373	80 441 589				27 433 269	10 788 241	8 573 718					984 408	179 093 599
HP.4.1 - Dispensing Chemists						62 767 850	16 038 824	4 621 241						83 427 915
HP.4.2 - Retail sales and other suppliers of optical glasses and other vision products						15 143 003	12 922 921	16 039 375						44 105 299
HP.6.1 - General Administration of Health	224 241 625	123 084 360			49 550									347 375 535
HP.6.3 - Other social insurance						38 750 541	15 613 133							54 363 674
HP.6.4 - Other private insurance							21 700 000							21 700 000
HP.6.9 - All other providers of health administration	1 095 048	25 651 431		115 592							177 734 700	2 333 342	129 215 567	336 145 680
HP.5 - Provision and administration of public health programmes	78 402 849	59 581 727	2 204 610	7 512 688	67 978 316		7 100 000		39 505 307			5 222 382	67 872 506	335 380 385
HP.nsk - Provider not specified by kind	21 702 917	12 200 597						18 327 627	1 412 829	7 492 257				61 136 227
Grand Total-THE	2 024 869 543	382 288 584	18 916 822	7 628 280	461 160 376	362 770 412	445 935 325	184 609 504	111 667 623	31 015 581	177 734 700	7 582 788	225 782 369	4 441 961 905
% of Total	45.6%	8.6%	0.4%	0.2%	10.4%	8.2%	10.0%	4.2%	2.5%	0.7%	4.0%	0.2%	5.1%	100.0%
HP.8.1 - Research Institutions	15 349 839.21	193 878 214.42											7 261 730.02	216 489 783.65
HP.8.2 - Education and Training Institutions	199 211 041.00	6 667 827.40			2 656 371.44				119 840.83				4 747 620.34	213 402 701.01
HP.8.3 - Other institutions providing health related services	3 633 497.00	2 327 558.35			198 728 138.64				15 000.00					204 704 193.99
HCR Total	218 194 377.21	202 873 600.16	-	-	201 384 510.08	-	-	-	134 840.83	-	-	-	12 009 350.36	634 596 678.65
Grand Total-NHE	2 243 063 920.50	585 162 183.67	18 916 821.86	7 628 280.04	662 544 886.13	362 770 412.00	445 935 324.56	184 609 503.70	111 802 463.49	31 015 580.72	177 734 700.00	7 582 787.55	237 791 719.74	5 076 558 583.96
% of Total-NHE	44.2%	11.5%	0.4%	0.2%	13.1%	7.1%	8.8%	3.6%	2.2%	0.6%	3.5%	0.1%	4.7%	100.0%

FINANCING AGENTS HEALTH CARE FUNCTIONS (HFXHC) 2008/2009

FINANCING AGENT

HC - Health Function	HF.1.1.1.1 - Ministry of Health	HF.1.1.1.2 - National AIDS Coordinating Agency (NACA)	HF.1.1.1.4 - Ministry of Defense and Security (formerly Min. of State President)	HF.1.1.1.9 - Other Ministries	HF.1.1.1.3 - Local/Municipal Government	HF.2.1 - Private Social Insurance (Botswana Public Officers Medical Aid Scheme - BPOMAS)	HF.2.2 - Other Private Insurance (Medical Aid Schemes - BOMAID, PULA)	HF.2.3 - Household Out-of-Pocket Payments	HF.2.4 - Non-profit institutions serving households (National NGOs)	HF.2.5 - Private Firms and Corporations (other than Health Insurance)	HF.3.1 - Bilateral Cooperation	HF.3.2 - Multilateral Cooperation	HF.3.3 - International NGOs	Grand Total
HC.5.1.1 - Prescribed medicines						62 767 850.00	23 790 624.00							86 558 474.00
HC.6.3.3 - Prevention of HIV/AIDS	623 700.00	52 672 894.94	1 948 214.86	7 512 688.04			7 100 000.00		39 154 307.30			1 798 376.18	33 090 174.77	143 900 356.09
HC.1.1- Inpatient curative care	1 167 829 251.95	806 537.55	8 611 212.00			98 543 535.73	148 409 485.00	83 777 699.15	42 520 046.21				918 159.38	1 551 415 926.97
HC.1.3 - Outpatient curative care	423 725 679.13	85 312 024.60	3 301 000.00		388 842 184.37	113 255 938.27	148 264 620.56	71 597 470.54	14 021 554.91	31 015 580.72		27 063.60	11 584 249.89	1 290 947 366.60
HC.2 - Services of rehabilitative care	21 702 917.00						3 672 000.00							25 374 917.00
HC.2.3 - Outpatient rehabilitative care					318 199.71				1 250 015.36					1 568 215.07
HC.4.1 - Clinical Laboratories	50 872 373.00	77 281 799.00				20 652 349.00	5 859 907.00							154 666 428.00
HC.4.2 - Medical imaging						6 780 920.00	4 928 334.00	8 573 718.47						20 282 972.47
HC.4.3 - Patient transport and emergency rescue	10 411 314.00	2 368 064.95				-	12 200 000.00							24 979 378.95
HC.5.1.2-Over the counter medicines								4 621 240.95						4 621 240.95
HC.5.2.1 - Glasses and vision products						15 143 003.00	12 922 921.00	16 039 374.59						44 105 298.59
HC.6 - Prevention and Public Health Services	70 906 070.00	134 729.36			67 734 936.00							3 424 005.41	34 763 138.10	176 962 878.88
HC.6.1 - Maternal and Child Health, Family Planning and Counselling (Sexual and Reproductive Health)	5 127 379.00								351 000.00					5 478 379.00
HC.6.2 - School Health Services	1 070 679.00	6 695 047.36			167 850.95									7 933 577.31
HC.6.3 - Prevention of communicable diseases					52 054.90									52 054.90
HC.7.1.1 - Central Government Administration of Health (e	182 655 881.10	121 806 573.06												304 462 454.16
HC.7.2.1 - Health Administration and Health Insurance: Private Social Insurance (BPOMAS)						38 750 541.00	15 613 133.00							54 363 674.00
HC.7.2.2 - Health Administration and Health Insurance: Ot	3 877 044.00	25 651 430.99		115 592.00			21 700 000.00				177 734 700.00	2 333 342.35	129 215 567.02	360 627 676.36
HC.nsk-Expenditures not specified by kind						6 876 275.00	2 929 360.00		3 227 135.56					13 032 770.56
HC.R.1 - Capital Formation for Health Care Providers Instit	86 067 255.11	9 559 481.68	5 056 395.00		4 045 150.12		38 544 940.00		11 143 563.32				16 211 080.22	170 627 865.45
Grand Total	2 024 869 543.29	382 288 583.51	18 916 821.86	7 628 280.04	461 160 376.05	362 770 412.00	445 935 324.56	184 609 503.70	111 667 622.66	31 015 580.72	177 734 700.00	7 582 787.55	225 782 369.37	4 441 961 905.32
% of Total-THE	45.6%	8.6%	0.4%	0.2%	10.4%	8.2%	10.0%	4.2%	2.5%	0.7%	4.0%	0.2%	5.1%	100.0%
HC.R.2 - Education and Training of Health Personnel	199 211 041.00	6 667 827.40			2 656 371.44				119 840.83				4 747 620.34	213 402 701.01
HC.R.3 - Research and Development in Health	15 349 839.21	193 878 214.42											7 261 730.02	216 489 783.65
HC.R.4 - Food, Hygiene and Drinking Water Control	624 954.00	2 327 558.35			187 458.50				15 000.00					3 154 970.85
HC.R.5 - Environmental Health	3 008 543.00				198 540 680.14									201 549 223.14
Total HCR	218 194 377.21	202 873 600.16	-	-	201 384 510.08	-	-	-	134 840.83	-	-	-	12 009 350.36	634 596 678.65
Grand Total-NHE	2 243 063 920.50	585 162 183.67	18 916 821.86	7 628 280.04	662 544 886.13	362 770 412.00	445 935 324.56	184 609 503.70	111 802 463.49	31 015 580.72	177 734 700.00	7 582 787.55	237 791 719.74	5 076 558 583.96
% of Total-NHE	44.2%	11.5%	0.4%	0.2%	13.1%	7.1%	8.8%	3.6%	2.2%	0.6%	3.5%	0.1%	4.7%	100.0%

ANNEX C. NHA TABLES 2009/2010

FINANCING SOURCES BY FINANCING AGENTS (FSXHF) 2009/2010

FINANCING AGENT	FINANCING SOURCE								
	FS.1.1.1.1 - Ministry of Finance and Development Planning	FS.2.1 - Employer funds	FS.2.2 - Household funds	FS.2.3 - Non Profit institutions serving individuals (National NGOs)	FS.3.1 - Bilateral cooperation	FS.3.2 - Multilateral cooperation	FS.3.3 - International NGOs	Grand Total	
HF.1.1.1.1 - Ministry of Health	2 281 572 861							2 281 572 861	43.3%
HF.1.1.1.2 - National AIDS Coordinating Agency (NACA)	259 418 210				123 819 439	102 122 739	4 589 157	489 949 545	9.3%
HF.1.1.1.3 - Ministry of Local Government	7 196 364					42 518 395		49 714 759	0.9%
HF.1.1.1.4 - Ministry of Defense and Security (formerly Min. of State President)	16 608 986							16 608 986	0.3%
HF.1.1.1.9 - Other Ministries	266 485							266 485	0.0%
HF.1.1.3 - Local/Municipal Government	472 095 739							472 095 739	9.0%
HF.2.1 - Private Social Insurance (Botswana Public Officers Medical Aid Scheme - BPOMAS)	453 880 731		453 880 731					907 761 461	17.2%
HF.2.2 - Other Private Insurance (Medical Aid Schemes - BOMAID, PULA)		284 448 345	284 448 345					568 896 689	10.8%
HF.2.3 - Household Out-of-Pocket Payments			234 576 879					234 576 879	4.5%
HF.2.4 - Non-profit institutions serving households (National NGOs)	97 466 123			1 261 212	168 560	98 000	31 981 561	130 975 456	2.5%
HF.2.5 - Private Firms and Corporations (other than Health Insurance)		6 122 880						6 122 880	0.1%
HF.3.2 - Multilateral Cooperation						7 582 788		7 582 788	0.1%
HF.3.3 - International NGOs					6 774 117		96 872 338	103 646 455	2.0%
Grand Total	3 588 505 498	290 571 224	972 905 954	1 261 212	130 762 116	152 321 922	133 443 056	5 269 770 982	100.0%
	68.1%	5.5%	18.5%	0.0%	2.5%	2.9%	2.5%	100.0%	
Financing agents spending on health care related functions	213524808.3			30000	8687674.3	59229.1		222301711.7	
Grand Total-NHE	3 802 030 306	290 571 224	972 905 954	1 291 212	139 449 790	152 381 151	133 443 056	5 492 072 694	
% of the Total-NHE	69.2%	5.3%	17.7%	0.0%	2.5%	2.8%	2.4%	100.0%	

FINANCING AGENTS BY HEALTH CARE PROVIDERS (HFXHP) 2009/2010

FINANCING AGENT														
HP- Provider	HF.1.1.1.1 - Ministry of Health	HF.1.1.1.2 - National AIDS Coordinating Agency (NACA)	HF.1.1.1.3 - Ministry of Local Government	HF.1.1.1.4 - Ministry of Defense and Security (formerly Min. of State President)	HF.1.1.1.9 - Other Ministries	HF.1.1.3 - Local/Municipal Government	HF.2.1 - Private Social Insurance (Botswana Public Officers Medical Aid Scheme - BPOMAS)	HF.2.2 - Other Private Insurance (Medical Aid Schemes - BOMAD, PULA)	HF.2.3 - Household Out-of-Pocket Payments	HF.2.4 - Non-profit institutions serving households (National NGOs)	HF.2.5 - Private Firms and Corporations (other than Health Insurance)	HF.3.2 - Multilateral Cooperation	HF.3.3 - International NGOs	Grand Total
HP.1.1.1.1 - Referral Hospitals	559 248 333	5 511						4 378 200	1 953 988				4 775 279	570 361 311
HP.1.1.1.2 - District Hospitals	664 603 261	247 492 233							1 650 034	3 619 116			19 338	917 383 981
HP.1.1.1.3 - Primary Hospitals	339 291 696			10 000 000					720 318					350 012 014
HP.3.4.5.2 - Health Clinics		34 566 054	42 518 395	6 608 986		392 873 404			5 583 693			27 064	22 915 272	505 092 867
HP.1.1.2 - Private Not-for-profit Hospitals	90 350 330						527 939 307	41 200 000		63 881 529				723 371 166
HP.1.1.3 - Private (for profit) Hospitals		18 915 615					148 803 090	342 131 122	135 500 634					645 350 460
HP.3.9.1 - Ambulance Services	11 561 414	1 243 225					699 281	13 100 000						26 603 920
HP.3.9.2 - Blood transfusions	58 037	3 822 055												3 880 092
HP.3.9.3 - Alternative or Traditional Practitioners									15 694 838					15 694 838
HP.3.9.9 - All other ambulatory health care services											5 857 308			5 857 308
HP.1.3 - Other specialty hospitals							33 835 475	8 866 351						42 701 826
HP.3.2 - Offices of Dentists (Private Dentists)							17 200 007	4 433 176	8 592 994					30 226 177
HP.3.3 - Offices of Other Health Practitioners (physiotherapists, optometrists, etc.)									5 256 372	1 276 312				6 532 684
HP.3.5 - Medical and Diagnostic Laboratories	56 285 544	1 510 113				66 150	29 813 346	11 166 351	10 632 125				984 408	110 458 037
HP.4.1 - Dispensing Chemists							74 533 365	16 846 068	5 730 724					97 110 156
HP.4.2 - Retail sales and other suppliers of optical glasses and other vision products							18 920 008	74 206 446	19 890 161					113 016 615
HP.6.1 - General Administration of Health	430 203 859	9 092 709											150 568	439 447 136
HP.6.3 - Other social insurance							56 017 583	16 168 975						72 186 558
HP.6.4 - Other private insurance								25 600 000						25 600 000
HP.6.9 - All other providers of health administration	1 192 949	16 689 062	7 196 364	266 485								2 333 342	6 929 085	34 607 287
HP.5 - Provision and administration of public health programmes	100 830 195	156 612 968				79 156 185		10 800 000		62 688 254		5 222 382	67 872 506	483 182 489
HP.nsk - Provider not specified by kind	27 947 243								22 727 784	153 460	265 572			51 094 060
Grand Total	2 281 572 861	489 949 545	49 714 759	16 608 986	266 485	472 095 739	907 761 461	568 896 689	233 933 665	131 618 671	6 122 880	7 582 788	103 646 455	5 269 770 982
% of Total-THE	43.3%	9.3%	0.9%	0.3%	0.0%	9.0%	17.2%	10.8%	4.4%	2.5%	0.1%	0.1%	2.0%	100.0%
HP.8.1 - Research Institutions	9 958 343	12 171 835										22130178.1		22130178.1
HP.8.2 - Education and Training Institutions	33 353 045	3 622 209				486 938				29 726		37491918.12		37491918.12
HP.8.3 - Other institutions providing health related services	4 735 882					157 913 734				30 000		162679615.5		162679615.5
Total-HCR	48 047 270	15 794 044	-	-	-	158 400 672	-	-	-	59 726	0	222301711.7		222301711.7
Grand Total NHE	2 329 620 131	505 743 589	49 714 759	16 608 986	266 485	630 496 410	907 761 461	568 896 689	233 933 665	131 678 397	6 122 880	229 884 499	103 646 455	5 492 072 694
% of Total-NHE	42.4%	9.2%	0.9%	0.3%	0.0%	11.5%	16.5%	10.4%	4.3%	2.4%	0.1%	4.2%	1.9%	100.0%

FINANCING AGENTS HEALTH CARE FUNCTIONS (HFXHC) 2009/2010

FINANCING AGENTS

HC: Health Function	HF.1.1.1.1 - Ministry of Health	HF.1.1.1.2 - National AIDS Coordinating Agency (NACA)	HF.1.1.1.3 - Ministry of Local Government	HF.1.1.1.4 - Ministry of Defense and Security (formerly Min. of State President)	HF.1.1.1.9 - Other Ministries	HF.1.1.3 - Local/Municipal Government	HF.2.1 - Private Social Insurance (Botswana Public Officers Medical Aid Scheme - BPOMAS)	HF.2.2 - Other Private Insurance (Medical Aid Schemes - BOMAID, PULA)	HF.2.3 - Household Out-of-Pocket Payments	HF.2.4 - Non-profit institutions serving households (National NGOs)	HF.2.5 - Private Firms and Corporations (other than Health Insurance)	HF.3.2 - Multilateral Cooperation	HF.3.3 - International NGOs	Grand Total
HC.5.1.1 - Prescribed medicines							74 533 365	99 460 068						173 993 432
HC.5.1.9 - Other medical nondurables	754 630	63 617 960												64 372 590
HC.6.3.2 - Prevention of TB		3 984 794												3 984 794
HC.6.3.3 - Prevention of HIV/AIDS	10 049 911	125 841 964						10 800 000		62 688 254		1 798 376	33 090 175	244 268 680
HC.6.3.9 - Prevention of other communicable diseases						247 890								247 890
HC.1.1 - Inpatient curative care	1 226 751 284	26 394 343		10 000 000			79 988 827	113 148 241	103 371 409	45 664 702		27 064	12 502 409	1 617 848 279
HC.1.3 - Outpatient curative care	408 068 294	180 223 111		5 494 637		382 652 937	110 963 074	161 386 703	94 309 246	14 655 629	6 122 880			1 363 876 510
HC.1.4 - Services of curative home care		8 782 177	42 518 395											51 300 572
HC.2 - Services of rehabilitative care	27 947 243					1 394 704				1 276 312				30 618 259
HC.4.1 - Clinical Laboratories	1 405 684					3 746 030	22 646 676	6 206 446						34 004 836
HC.4.2 - Medical imaging							7 166 670	4 959 905	10 632 125					22 758 700
HC.4.3 - Patient transport and emergency rescue	11 561 434	1 243 225					699 281	13 100 000						26 603 920
HC.5.1.2 - Over the counter medicines									5 730 724					5 730 724
HC.5.2.1 - Glasses and vision products							18 920 008	74 206 446	19 890 161					113 016 615
HC.6 - Prevention and Public Health Services	78 928 772	22 497 473				78 122 873						3 424 005	34 763 138	217 736 262
HC.6.1 - Maternal and Child Health, Family Planning and Counselling (Sexual and Reproductive Health)	9 954 086	892 177												10 846 263
HC.6.2 - School Health Services	435 061	3 396 560				527 596	242 926							4 359 216
HC.6.3 - Prevention of communicable diseases														242 926
HC.6.4 - Prevention of non-communicable diseases	93 076													93 076
HC.7.1.1 - Central Government Administration of Health (except Social Security)	258 537 655	353 568											150 568	259 041 791
HC.7.2.1 - Health Administration and Health Insurance: Private Social Insurance (BPOMAS)							56 017 583	16 168 975						72 186 558
HC.7.2.2 - Health Administration and Health Insurance: Other Private	1 192 949	16 156 376	7 196 364		266 485			25 600 000				2 333 342	6 929 085	59 674 601
HC.nsk - Expenditures not specified by kind							8 886 670	2 659 905		2 207 660				13 754 236
HC.R.1 - Capital Formation for Health Care Providers Institutions	245 892 802	36 565 817		1 114 349		5 160 783	527 939 307	41 200 000		5 126 113			16 211 080	879 210 252
Grand Total	2 281 572 861	489 949 545	49 714 759	16 608 986	266 485	472 095 739	907 761 461	568 896 689	233 933 665	131 618 671	6 122 880	7 582 788	103 646 455	5 269 770 982
% of Total-THE	43.3%	9.3%	0.9%	0.3%	0.0%	9.0%	17.2%	10.8%	4.4%	2.5%	0.1%	0.1%	2.0%	100.0%
HC.R.2 - Education and Training of Health Personnel	33 353 045	3 622 209	486 938							29 726				37 491 918
HC.R.3 - Research and Development in Health	9 958 343	12 171 835												22 130 178
HC.R.4 - Food, Hygiene and Drinking Water Control	108 210		744 748							30 000				882 958
HC.R.5 - Environmental Health	4 627 672		157 168 985											161 796 657
Grand Total HCR	48 047 270	15 794 044	158 400 672	-	-	-	-	-	-	59 726	-	-	-	222 301 712
Grand Total NHE	2 329 620 131	505 743 589	208 115 431	16 608 986	266 485	472 095 739	907 761 461	568 896 689	233 933 665	131 678 397	6 122 880	7 582 788	103 646 455	5 492 072 694
% of Total-NHE	42.4%	9.2%	3.8%	0.3%	0.0%	8.6%	16.5%	10.4%	4.3%	2.4%	0.1%	0.1%	1.9%	100.0%

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