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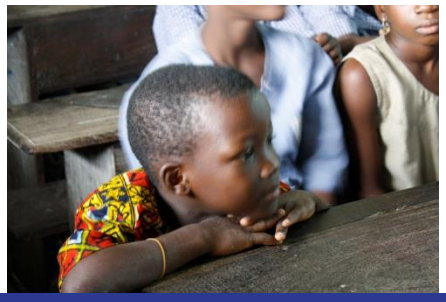

AN ANALYSIS OF SPENDING ON PREVENTION AND PUBLIC HEALTH IN AFRICA

September 2013
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ACRONYMS

ACT	Artemisinin-based combination therapy
ART	Antiretroviral treatment
BEN	Benin
BCC	Behavioral change communication
BFA	Burkina Faso
BWA	Botswana
CIV	Cote d'Ivoire
DRC	Democratic Republic of the Congo
ETP	Ethiopia
FP	Family planning
FS	Financing source (NHA code)
GBD	Global Burden of Disease
HC	Health care function (NHA code)
HF	Health care financing agent (NHA code)
HIV	Human immunodeficiency virus
HP	Health provider (NHA code)
IEC	Information, education, and communication
ITN	Insecticide treated bed nets
KEN	Kenya
LBR	Liberia
MCH	Maternal and child health
MMR	Maternal mortality rate
MOZ	Mozambique
MWI	Malawi
NAM	Namibia
NASA	National AIDS Spending Assessment
NCD	Noncommunicable disease
NGA	Nigeria
NGO	Nongovernmental organization
NHA	National Health Accounts

NPISH	Nonprofit institutions serving households
OECD	Organization for Economic Cooperation and Development
PEPFAR	President's Emergency Plan for AIDS Relief
PG	Guide to Producing National Health Accounts
PPH	Prevention and public health
RH	Reproductive health
RWA	Rwanda
SEN	Senegal
SHA	System of Health Accounts
STI	Sexually transmitted infections
TB	Tuberculosis
THE	Total health expenditure
TPPE	Total prevention and public health expenditure
TZA	Tanzania
USD	U.S. dollars
VCT	Voluntary counseling and testing
WHO	World Health Organization
ZMB	Zambia

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EXECUTIVE SUMMARY

The burden of disease in Africa continues to present challenges to the region's development. Health promotion and disease prevention interventions have been shown to be cost-effective in improving health outcomes (Laxminarayan et al. 2006). However, few studies examine how much governments and donors spend on health promotion and disease prevention as compared to other areas, such as curative care.

The objective of this report is to analyze prevention and public health expenditures of 16 African countries that have National Health Accounts (NHA) data. NHA is a standardized framework that tracks financial resource flows in the health sector, from financing sources, to financing agents that manage funds, to health providers and consumers of care.

In this analysis, health promotion and disease prevention expenditures, which are classified as prevention and public health (PPH) services in the NHA, are compared across 16 countries over the period of 2005 through 2010. The 16 countries in this analysis include all countries in Africa for which NHA PPH data were available during this time period: Benin, Burkina Faso, Botswana, Cote d'Ivoire, Democratic Republic of the Congo (DRC), Ethiopia, Kenya, Liberia, Mozambique, Malawi, Namibia, Nigeria, Rwanda, Senegal, Tanzania, and Zambia. PPH data from NHA subaccounts are also examined to better understand spending for HIV, malaria, tuberculosis (TB), and reproductive health. Finally, trend data in Namibia are studied to understand patterns in PPH spending over an eight-year period.

Results

General PPH Spending

Of the 16 countries examined, the proportion of total health expenditure (THE) spent on PPH ranged from 8 percent in Cote d'Ivoire to 30 percent in Ethiopia. Although Ethiopia has the largest percentage allocated towards PPH, when it comes to per capita spending, Ethiopia has among the lowest PPH expenditures at US$13 per person. When looking across all 16 countries, PPH expenditures per capita vary from US$3 in Democratic Republic of Congo (DRC) to US$64 in Botswana.

In all countries examined, except for Cote d'Ivoire, Benin, and Burkina Faso, spending for curative care accounted for the largest percentage of THE. In nine of the 16 countries, PPH services are the second largest expenditure. Only nine countries provided additional data on how PPH expenditures are spent. In these countries, most expenditures are for prevention of communicable diseases. On the other hand, expenditures for prevention of noncommunicable diseases (NCDs) accounted for less than 3 percent of THE in every country. In addition, these nine countries classify an average of 9.6 percent of their PPH expenditures as "other miscellaneous public health services."

Data on PPH financing agents, which are defined as institutions or entities that channel funds provided by financing sources to pay for, or purchase, health services (World Bank et al. 2003), were available in 13 countries. For four of these countries, the primary financing agent managing PPH expenditures is the government; for another eight, it is nongovernmental organizations (NGOs) (both local and international) and donors; and in one country (Nigeria), the primary financing agent is household out-of-pocket payments.

Data on providers of PPH services were available in eight of the 16 countries. In six countries, providers of PPH programs received a majority (between 45 to 96 percent) of PPH expenditures, while in two countries, the majority of PPH expenditures were consumed by ambulatory care providers. Table i summarizes PPH spending in the 16 countries examined.

Table i: Summary of PPH Spending in 16 Countries

Country	Year of Data	THE (USD)	THE per Capita (USD)	PPH Expenditure (Exp) (USD)	PPH Exp per Capita (USD)	PPH Exp as Percentage of THE
Benin (BEN)	2008	597,293,925	71	110,401,946	13	18%
Burkina Faso (BFA)	2008	1,319,226,699	85	282,787,387	18	21%
Botswana (BWA)	2009-10	1,395,399,868	695	127,571,863	64	9%
Cote d'Ivoire (CIV)	2008	2,120,081,681	112	165,513,189	9	8%
Democratic Republic of Congo (DRC)	2008	900,505,040	14	165,433,291	3	18%
Ethiopia (ETP)	2007-08	3,365,818,130	42	999,649,493	13	30%
Kenya (KEN)	2009-10	3,010,272,282	74	537,870,331	13	18%
Liberia (LBR)	2007-08	214,023,616	59	46,510,902	13	22%
Mozambique (MOZ)	2006	457,498,490	21	96,084,578	5	21%
Malawi (MWI)	2008-09	1,315,962,741	91	336,559,665	23	26%
Namibia (NAM)	2008-09	997,145,409	445	139,997,707	62	14%
Nigeria (NGA)	2005	20,564,289,443	147	2,852,041,443	20	14%
Rwanda (RWA)	2006	940,018,753	100	179,113,462	19	19%
Senegal (SEN)	2007	1,017,061,250	89	231,976,478	20	23%
Tanzania (TZA)	2009-10	4,504,841,152	100	1,002,317,576	22	22%
Zambia (ZMB)	2006	959,964,423	82	143,564,362	12	15%

*All figures are in international U.S. 2011 dollars.

**Population figures from World Bank 2012 were used for these estimates.

PPH Spending for HIV, Malaria, TB, and Reproductive Health

Data from HIV, malaria, TB, and reproductive health NHA subaccounts identify how PPH expenditures in these specific disease areas are spent. Spending on HIV curative care accounted for the largest proportion of HIV spending in all countries for which data were available, except for Burkina Faso, Cote d'Ivoire, and Ethiopia. In the nine countries with data, an average of 40 percent of HIV spending is for PPH services, ranging from 30 percent in Rwanda to 67 percent in Ethiopia.

In terms of malaria, in all countries except for Burkina Faso, the majority of funding is spent on curative care followed by PPH services. In Burkina Faso, the majority of malaria expenditures are spent on medical goods dispensed to outpatients, followed by PPH services. On average, the eight countries with data spent 15 percent of all malaria expenditures on PPH services. Malaria PPH expenditures range from 6 percent in both Rwanda and Zambia to 27 percent in both Ethiopia and Tanzania.

The same general pattern is evident for TB. In the six countries where data were available, curative care had higher expenditures than TB-related PPH. PPH expenditures average 25 percent of all TB spending, ranging from 17 percent in Malawi to 35 percent in Tanzania.

Finally, expenditures on PPH services for reproductive health are lower than expenditures on curative care, with the exception of Malawi where PPH expenditures accounted for the largest proportion of reproductive health spending. On average, the seven countries with data spent 22 percent of reproductive health expenditures on PPH services, ranging from 4 percent in Namibia to 48 percent in Malawi. Table ii breaks down the PPH spending by country and by service provided.

Table ii: Summary of PPH Spending for HIV, Malaria, TB, and Reproductive Health

Country	Year of data	Disease spending (USD millions)	Disease spending per capita (USD)	Disease PPH spending (USD millions)	Disease PPH spending per capita (USD)	PPH spending as % of disease spending	Health outcome
			HIV				**HIV prevalence (% of adults aged 15-49)**
BFA	2006	113	7.27	45	2.88	40%	1.5
CIV	2008	224	11.78	73	3.83	33%	3.6
ETP	2007-08	711	11.38	479	7.66	67%	1.9
KEN	2009-10	739	9.30	250	3.15	34%	6.2
MWI	2009-09	463	11.43	175	4.32	38%	10.9
NAM	2008-09	284	126.63	108	48.30	38%	13.7
RWA	2006	224	23.77	67	7.07	30%	3.1
TZA	2009-10	1,207	26.91	523	11.66	43%	5.8
ZAM	2006	226	19.20	91	7.71	40%	13.6
			Malaria				**Notified cases of malaria per 100,000 people**
BFA	2006	99	6.40	11	0.69	11%	45,322
ETP	2007-08	162	2.04	45	0.56	27%	11,509
KEN	2009-10	752	18.56	74	1.84	10%	30,307
LBR	2007-08	94	25.79	16	4.34	17%	29,994
MWI	2008-09	250	17.30	39	2.73	16%	33,773
RWA	2006	99	10.53	6	0.63	6%	11,429
TZA	2009-10	875	19.52	234	5.22	27%	24,088
ZAM	2006	142	12.06	8	0.67	6%	13,456

Country	Year of data	Disease spending (USD millions)	Disease spending per capita (USD)	Disease PPH spending (USD millions)	Disease PPH spending per capita (USD)	PPH spending as % of disease spending	Health outcome
			TB				**Prevalence of TB per 100,000 people**
BFA	2006	4	0.28	1	0.07	24%	99
ETP	2007-08	140	1.77	28	0.36	20%	280
KEN	2009-10	33	0.82	6	0.15	19%	288
MWI	2005-06	12	0.88	2	0.15	17%	244
TZA	2005-06	12	0.27	4	0.09	35%	186
ZMB	2006	10	0.82	3	0.28	34%	397
			Reproductive Health				**Maternal mortality rate per 100,000 live births**
ETP	2007-08	443	5.58	120	1.52	27%	540
KEN	2009-10	418	10.33	42	1.06	10%	360
LBR	2008	14	3.94	4	0.97	25%	770
MWI	2008-09	122	8.43	58	4.04	48%	460
NAM	2008-09	102	45.68	4	1.82	4%	200
RWA	2006	23	2.46	7	0.75	31%	550
TZA	2009-10	807	17.99	61	1.35	8%	460

*All figures are in international U.S. 2011 dollars.
**Population figures and health outcome data from World Bank 2012 were used for these estimates. Health outcome and population data are reported in the same year as the NHA data.

Namibia Case Study

Namibia had eight consecutive years of NHA data available, from fiscal year (FY) 2001-02 to FY 2008-09. Within these eight years, Namibia has made tremendous progress in improving health outcomes – particularly in reversing the HIV epidemic, which once affected 16.3 percent of the population (World Bank 2012). Over this same time period, general PPH spending in Namibia has increased, both in per capita terms and as a share of THE. Although curative care uses the largest proportion of THE, from FY2001-02 to FY2008-09, this amount decreased from 71 percent to 53 percent, while the proportion of funds allocated towards PPH increased from 4 percent to 14 percent over the same time period. PPH spending per capita also increased substantially over this time period, from US$11 to US$62. From FY2001-02 to FY2003-04, all general PPH expenditures were managed by the Namibian government. As PPH expenditures grew rapidly from FY2004-05 onwards, NGOs managed an increasing proportion of expenditures.

In both FY2007-08 and FY2008-09, services for curative care constituted the largest proportion of total HIV health expenditures at 48 percent and 51 percent, followed by PPH services at 38 percent in both years (US$50 per capita in FY 2007-08 and US$48 in FY2008-09). The government managed half of all HIV expenditures in FY2007-2008, while NGOs managed the rest. In FY 2008-09, the share of HIV

funds managed by the government decreased to 41 percent, while the share managed by NGOs increased accordingly.

The proportion of reproductive health expenditures allocated to PPH fell from 5 percent (US$3 per capita) in FY2007-08 to 4 percent (US$2 per capita) in FY2008-09. This is consistent with the decline in total reproductive health expenditures, from 12 percent of THE in FY2007-08 (US$53 per capita) to 10 percent (US$46 per capita) the following year. PPH activities for reproductive health were almost entirely managed by the government. Table iii summarizes PPH spending in Namibia.

Table iii: Summary of PPH Spending in Namibia

Year	THE (USD)	PPH Expenditures (USD)	THE per Capita (USD)	PPH Expenditures per Capita (USD)	PPH Expenditures as a Proportion of THE
General Health Spending					
2001-02	573,678,397	21,347,339	291	11	4%
2002-03	609,908,768	21,434,273	304	11	4%
2003-04	643,437,184	22,637,811	315	11	4%
2004-05	704,681,307	57,425,350	339	28	8%
2005-06	843,152,390	84,194,214	398	40	10%
2006-07	923,770,410	133,545,320	428	62	14%
2007-08	947,877,271	142,087,036	431	65	15%
2008-09	997,145,409	139,997,707	445	62	14%
HIV/AIDS					
2007-08	285,694,189	109,582,840.92	130	50	38%
2008-09	283,906,475	108,289,912.97	127	48	38%
Reproductive Health					
2007-08	117,475,666	5,969,893	53	3	5%
2008-09	102,428,888	4,069,804	46	2	4%

*All figures are in international U.S. 2011 dollars.

**Population figures from World Bank 2012 were used for these estimates.

Discussion

The analysis of general PPH health spending, disease-specific PPH spending, and Namibian PPH trend data reveals the following:

- All nine countries that broke down PPH spending by function reported that most PPH spending goes to prevention of communicable diseases. Expenditures for NCDs were minimal in the reports from every country. Greater attention is therefore required to track NCDs, especially in light of the rising prevalence of NCDs in Africa.
- For eight of the 13 countries that had PPH financing agent data available, the primary financing agent managing PPH expenditures was NGOs (both local and international) and donors. Given the NGOs' significant role in PPH in several countries, it is important for governments to work closely with NGOs and donors to ensure that PPH programs are coordinated with country government interventions.

- The 12 countries that had subaccount data reported allocating at least 30 percent of total HIV expenditures to PPH (ranging from 30 percent to 67 percent of total HIV expenditures). This amount allocated to prevention is higher than the President's Emergency Plan for AIDS Relief (PEPFAR) I original funding priorities, which call for countries to spend at least 20 percent of PEPFAR funds on HIV prevention activities (U.S. Congress 2003). This allocation is also higher than the average approved PEPFAR II funding for prevention in 2011, which was 28 percent for countries that prepared operational plans (Kaiser Family Foundation 2013).
- NHA data from Namibia revealed that NGOs have managed an increasing proportion of PPH spending, particularly starting in FY2004-05. By FY2008-09, NGOs were managing 53 percent of PPH spending. To ensure that Namibia maintains its progress, increased government commitment to strategic areas – such as HIV – is paramount. The role of NGOs in health promotion and disease prevention should be a priority policy issue.

This analysis has the following limitations:

- Countries such as Kenya, Namibia, and Tanzania had multiple years of data available and hence trends over time could be established. However, countries such as DRC and Liberia had only one year of data available, and other countries such as Ghana, Mali, and Nigeria had not completed an NHA exercise since 2005. This resulted in a comparison of data across countries from different years, which limits the accuracy of the results in this analysis.
- Although the NHA tracks expenditures in the health sector, health promotion activities often span across multiple sectors, and these expenditures were not captured in this study.
- The NHA framework does not directly map or link financing sources (FS) to health care functions (HC). The NHA therefore does not break down spending on PPH services by source (donors, central government) and can only break down spending by financing agent (Ministry of Health, NGOs, households, employers, insurers).
- NHA classifications aim to be mutually exclusive and collectively exhaustive so that a given health expenditure fits into one specific classification within the NHA. However, in some instances, health expenditures could potentially fit into more than one classification, and, therefore, health expenditures may not be classified consistently between countries.
- The data indicated that administrators of public health programs are responsible for the majority of PPH expenditures. However, the health provider category is very broad, and more specific data on the type of public health administrator were commonly not available. The use of this information is therefore limited.

Opportunities to Improve Tracking of PPH Expenditures

In 2011, the Organization for Economic Cooperation and Development (OECD), Eurostat, and the World Health Organization (WHO) produced a revised version of the NHA framework, the System of Health Accounts (SHA) 2011, which builds on lessons learned and improves on the cohesion of the prior framework. As countries begin to implement SHA 2011, there will be several implications for tracking health promotion and disease prevention spending:

- The boundaries of the PPH category encompassing spending on health promotion and disease prevention are reorganized according to the type of services provided. The results will therefore have a more strategic focus rather than a disease-specific focus.
- A new classification within the framework called "health promotion with a multi-sectoral approach" will include health-specific spending as well as spending by other sectors to better capture the cross-

cutting nature of health promotion interventions.

- Policymakers will be able to determine the types of financing arrangements through which people obtain health promotion and disease prevention services.
- Disease-specific spending will be tracked through "Global Burden of Disease" (GBD) classifications rather than subaccounts. Using GBD to classify health promotion and disease prevention expenditures along with other characteristics (e.g., age, gender, and socioeconomic status) will ultimately allow for more thorough policy application.

Conclusions

This analysis has implications for health promotion and disease prevention research:

- Comparing the share of spending between health promotion and disease prevention activities and curative care raises the need to examine the optimal mix of spending between the two interventions. It also flags the need to generate overall evidence that can better explain the link between PPH spending and health outcomes to encourage more investments in tracking and using PPH expenditure data.

This analysis has implications for implementers of health programs:

- In eight of the 13 countries that had data on financing agents, NGOs and donors were the primary managers of PPH expenditures. To ensure that PPH programs are country owned and systematically integrated into the respective countries' health system, it is important that (1) NGOs and governments coordinate and harmonize activities to effectively use resources for PPH and/or (2) governments institutionalize state-of-the-art health promotion and disease prevention programming in ministries of health and graduate level schools of public health.

This analysis has implications for NHA practitioners:

- During the transition to the SHA 2011 framework, countries will need to understand the changes to the old classifications and have practical guidance for mapping expenditures. The supplementary guidance developed by the OECD, *Expenditure on Prevention Activities Under SHA 2011,* is a practical resource for country teams as they begin using the revised framework.
- Strengthening country health information systems to enable more routine reporting and a greater level of detail in the NHA analysis will also enable better tracking of PPH expenditures.

1. INTRODUCTION

1.1 Rationale

The burden of disease in Africa continues to present challenges to stakeholders in the region's development. Malaria, AIDS, and tuberculosis (TB) are the leading causes of death in Africa, accounting for approximately 655,000, 1.4 million, and 1.7 million deaths each year, respectively, most of them among children under five (WHO 2012). Maternal mortality remains high, at 240 deaths per 100,000 births in developing countries, and more than half of all maternal deaths take place in sub-Saharan Africa (WHO 2012). While these "big three" diseases, along with maternal mortality, other infectious diseases, risk factors, and lifestyle choices, will likely remain the primary challenges for the health sector in Africa, prevalence of noncommunicable diseases (NCDs) is growing, with an estimated 10 million cases of diabetes in Africa in 2006 and a projected 20 million in 2025 (Cooke 2009). These facts highlight the reality of the disease burden facing Africa in the coming years, a time when leveling donor spending will likely place tight constraints on countries seeking to scale up health programs.

Addressing these challenges is inherent to strategies and interventions for health promotion and disease prevention. First codified in the 1980s as a theory and practice, health promotion was defined by the World Health Organization (WHO) as "the process of enabling people to increase control over their health and its determinants, and thereby improve their health" (WHO 2005a). Health promotion requires a cross-sectoral public policy strategy, as it encompasses broad social and economic factors (International Union for Health Promotion and Education 2007). The Organization for Economic Cooperation and Development (OECD) defines disease prevention as "any measure that aims to avoid or reduce the number or the severity of injuries and diseases, their sequel and complications" (OECD et al 2011). Disease prevention interventions contribute to the objectives of health promotion.

Health promotion and disease prevention advocates, practitioners, and researchers have developed and tested a wide array of interventions for achieving better health outcomes. Health promotion and disease prevention interventions have been shown to be cost-effective in improving health outcomes, though their cost-effectiveness is context specific and depends in part upon the epidemiological trends, the scale of implementation, and the price and quality of inputs (Laxminarayan 2007). Health promotion interventions target systemic issues and involve actions such as the following:

- Advocacy for health as a human right
- Investment in political, technical, and physical inputs required to make health programs sustainable
- Building of capacity and partnerships in the pursuit of optimal strategies and practices for health promotion (WHO 2005a).

In general, health promotion activities are considered public goods: goods that are available for the benefit of all and where the use by one person does not reduce availability to others (Varian 1992). On the other hand, for clinical care, the supply is limited by available resources and provision to one person reduces the quantity available to others. Because using public goods does not reduce their availability, the benefits to society as a whole can be very large. For instance, the adoption of a healthy lifestyle can lead to a longer life expectancy for an individual, a benefit that is generally not realized until later in life. However, the benefit to society is derived from thousands of individuals living longer in optimum health, requiring less health care, and continuing to contribute to society. Since public goods are available to all

once provided and it is difficult to charge or exclude users, such public goods are generally undersupplied by private markets, making it essential for governments to take collective action (World Bank 2008).

Resource tracking data – a compilation of past spending data – are critical in informing the level of spending in the public health domain as compared to the individual health service domain. Resource tracking data can be used to compare actual spending against policy objectives and global standards. These data can also inform the planning and targeting of health promotion and disease prevention investments.

Stakeholders are already engaged in collecting and applying resource tracking data to deepen their understanding of health promotion and disease prevention, particularly in studies on the global HIV response. Two prominent resource tracking frameworks used to estimate national expenditure in health are National Health Accounts (NHA), which tracks all health spending in a country, and the National AIDS Spending Assessment (NASA), which looks at health and non-health spending on HIV and AIDS. Both frameworks have been used by more than 100 countries. Studies using NASA data include a piece by Forsythe et al. (2009), which shows that resources for the HIV response by public and international organizations are not strategically allocated across prevention and treatment, or within prevention across various interventions. In another study, Amico et al. (2012) show large variance in the amount of spending on HIV preventive care relative to treatment and other care among 69 countries. Other cross-country studies discussing prevention and treatment in disease-specific areas or throughout the health sector rely on indirect estimates to extrapolate broader spending patterns on prevention (Kouyate et al. 2007, Gaziano 2007).

Although NASA data have been analyzed for patterns in spending on HIV-related prevention, a review of the literature using Google Scholar, EBSCO, and EHIS data bases did not locate any papers that compile and analyze general spending on prevention in Africa. This study attempts to address this gap.

1.2 Objectives

This analysis seeks to (1) use currently available NHA data to examine expenditures allocated to health promotion and disease prevention in 16 countries in Africa and (2) further inform issues related to the classifications and boundaries of health promotion and disease prevention in the NHA methodology. Research questions include the following:

- What is the share of spending on health promotion and disease prevention at the country level relative to total health expenditures?
- What is the health expenditure on health promotion and disease prevention per capita?
- How does health promotion and disease prevention spending compare to spending in other health areas?
- Who manages health promotion and disease prevention spending?
- What specific types of health promotion and disease prevention services are provided and used?
- What are country-specific trends in health promotion and disease prevention spending?
- How can the newly released System of Health Accounts 2011 (SHA 2011) NHA methodology and capacity-building approaches, tools, and manuals be improved to more thoroughly track spending on health promotion and disease prevention?

1.3 Organization of the Report

This report begins with a discussion of the NHA methodology and how the framework tracks spending on health promotion and disease prevention in general health and for specific diseases. In the findings sections, a cross-country analysis of health promotion and disease prevention spending (Chapter 3) and an analysis of disease-specific data for HIV, malaria, TB, and reproductive health (Chapter 4) respond to the research questions. Chapter 5 presents a case study on Namibia, which has more detailed and time series NHA data, and provides a deeper look into trends in spending by considering the sources of funding and examining the results in the context of epidemiological data. Chapter 6 includes a discussion of the power and opportunities to improve NHA in tracking spending on health promotion and disease prevention with the use of the SHA 2011. Chapter 7 concludes the report with recommendations for further research, lessons learned for governments and program implementers, and considerations for NHA practitioners.

2. METHODOLOGY

This chapter will provide an overview of the NHA and subaccount framework, describe how health promotion and disease prevention expenditures are captured within the NHA framework, outline how countries were selected and data are compared throughout the study, and review study limitations.

2.1 The NHA Framework

NHA based on SHA 1.0 (see box 1) is a standardized framework for tracking financial resource flows in the health sector at the national level. It identifies the sources of health financing, how these funds are allocated to service providers, and what types of services are being used. NHA uses a classification scheme to summarize economic activity within the health system according to four dimensions:

- From the expenditures' **financial sources** (NHA classifies as FS), such as the ministry of finance, donors, and households
- Through their **health financing agents** (NHA classifies as HF), which are the principal managers of health funds that directly pay health providers and may include entities such as the Ministry of Health and nongovernmental organizations (NGOs)
- To **health providers** (NHA classifies as HP), such as hospitals, clinics, dispensaries, pharmacies, and traditional healers
- To **health care functions** (NHA classifies as HC), the types of service or products used, including curative, medical goods, rehabilitative care, and administration.

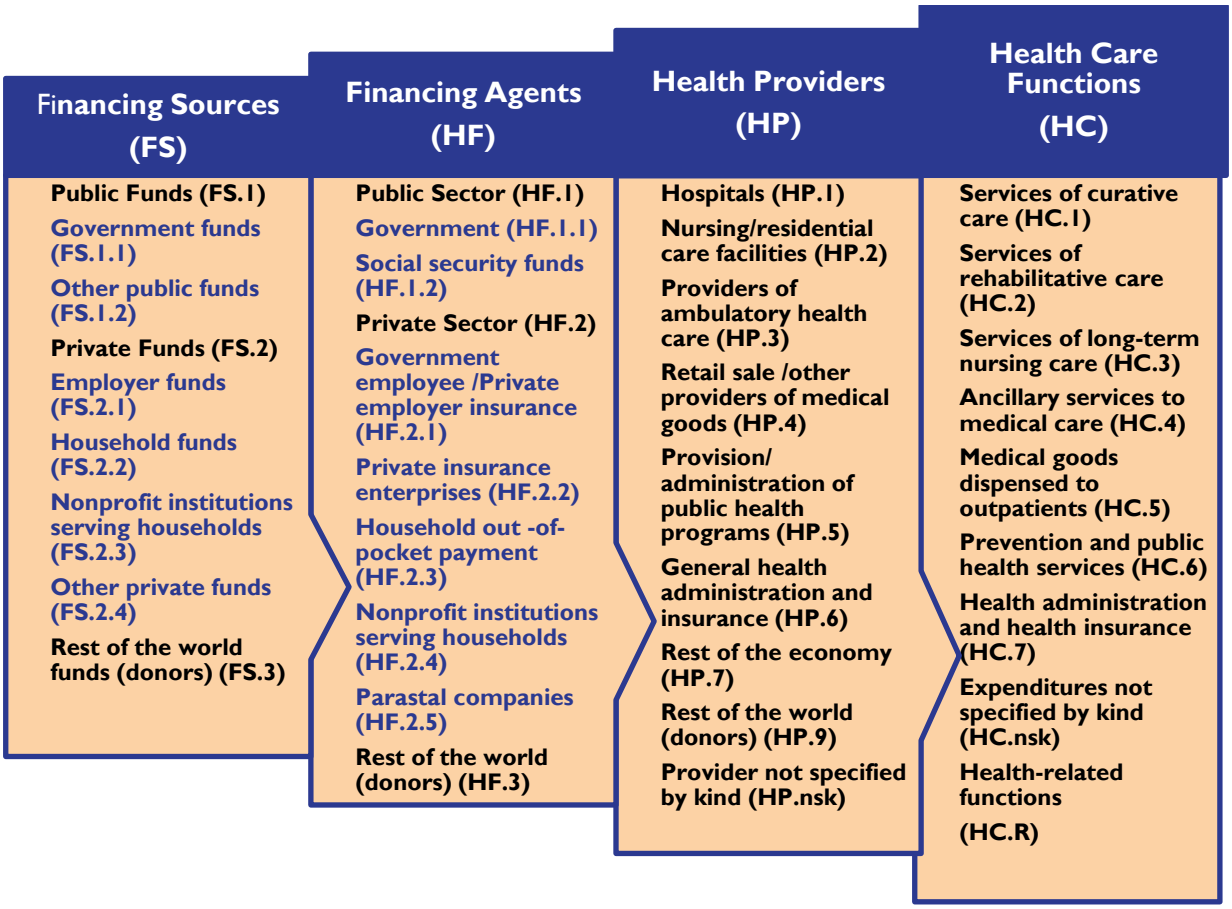
The four dimensions of the NHA framework (FS, HF, HP, and HC) are presented in Figure 1 below. Each dimension also includes a hierarchy of spending categories and subcategories that provide more detail on health expenditures. Each of the categories and subcategories should be mutually exclusive and are labeled with a unique code.

Box 1: System of Health Account (SHA) Frameworks

For NHA data produced between 2000 and 2011, the NHA framework is based on the definitions in the SHA 1.0 (OECD 2000) and the Guide to Producing NHA (World Bank et al. 2003). The Guide to Producing NHA supplements SHA 1.0 definitions with implementation guidance and recommended adaptations for low- and middle-income countries. The international standard established in the SHA 1.0 and Guide to Producing NHA facilitates production and use of NHA data at the country level and in conducting cross-country comparisons. The standard also gives countries room to adapt the framework to reflect local context. This analysis uses data based on the SHA 1.0 framework.

In 2011, the OECD developed revised guidelines for the SHA framework (henceforth referred to as SHA 2011). Countries are now starting to use the SHA 2011 framework. However, at the time this report was produced, data from countries using the SHA 2011 framework were not yet available. Chapter 6 discusses opportunities to improve tracking spending on health promotion and disease prevention with the use of the SHA 2011.

Figure 1: Standard NHA Categories



*Financing Sources (FS), Financing Agents (HF), Health Providers (HP) and Health Care Functions (HC) make up the four dimensions of the NHA framework
Items in **black are categories. The sum of public funds (FS.1), private funds (FS.2) and rest of the world funds (FS.3)"roll up" to equal Financing Sources (FS).
***Items in **purple** are subcategories. The sum of government funds (FS.1.1) and other public funds (FS.1.2) "roll up" to equal public funds (FS.1).
****The subcategories for HP and HC are not displayed in the figure above.

Health care expenditures are defined as the funds used to purchase goods and services whose primary purpose is to improve health (World Bank et al. 2003). Health care purposes include, but are not limited to, the following:

- Promoting public health and preventing disease
- Curing illness and reducing premature mortality
- Providing and administering health programs, health insurance, and other funding arrangements.

Other goods and services that result in improved health outcomes but whose primary goals concern other social and economic factors are considered "health care-related" goods and services, and are excluded from the aggregate measure of health spending in the country: total health expenditure (THE). Examples of cross-sectoral prevention and public health (PPH) activities that would be classified as "health care-related" goods and services may include mass media campaigns involving the police and road safety department, health education curriculum integrated in schools with the education sector, or sanitation and clean water projects implemented alongside the Ministry of Water and Irrigation.

The NHA framework sets specific geographic and time boundaries. The NHA is not limited to the activities taking place within the national border, but also includes health expenditures incurred by citizens and residents temporarily abroad and donor spending on health-related goods and services. In terms of time frame, the NHA captures expenditures on health care services provided to country residents within a 12-month period, which is typically the government's fiscal year (FY). The NHA includes both public and private sector data, gathering private health expenditure data from employers, NGOs, insurance companies, and donors as well as households.

The NHA tracks all spending on health overall (the general NHA framework), and, in some cases, the NHA tracks expenditures for specific diseases and program areas including HIV/AIDS, malaria, TB, and reproductive health subaccounts.[1] These NHA "subaccounts" provide space within the framework to look more closely at areas of policy relevance. With the exception of child health subaccounts (which are not included in this analysis), health spending for a specific disease area accounts for a percentage of THE in the country and is mutually exclusive.

Box 2: Summary of NHA Terminology

Expenditure: measures, in monetary terms, the value of consumption of goods and services.

Health Care Expenditure: expenditure for activities whose primary purpose is to restore, improve, and maintain health.

Health-Related Expenditure: expenditure that may overlap multiple fields (e.g., health, education, transport).

Classification Scheme: an arrangement that summarizes health system transactions according to a common set of characteristics.

Dimension: different viewpoint of a country's expenditure on health. The NHA systematically capture health expenditures within four dimensions (FS, HF, HP, HC) so that they can be compared internationally.

Category and Subcategory: Partitions the NHA dimension in a mutually exclusive and collectively exhaustive manner.

Code: letter and numerical code assigned to a category or subcategory to associate it with one of the four NHA dimensions. Codes may be at the first digit (e.g., PPH), second digit (e.g., maternal child health, school health services), and so on. The more digits, the more detail captured.

Subaccount: expenditure data on a specific health program (e.g., HIV/AIDS, malaria, TB), as opposed to the general NHA, which captures all health spending.

World Bank et al. 2003

[1] Other subaccounts that are not included in this study are child health and health information systems.

2.2 Health Promotion, Public Health, and Disease Prevention in the NHA Framework based on SHA 1.0

Goods and services that are used for the purpose of health promotion and disease prevention are captured by the NHA as a health care function (HC), whereby THE is broken down by services provided or products consumed. The category "PPH services" (coded HC.6) accounts for spending on both health promotion and disease prevention. PPH services are further broken down within the NHA framework into subcategories (second digit codes) that provide additional detail on how PPH expenditures were used (Annex A).

Subcategories (Second digit PPH codes) for the general NHA:

- Maternal and child health; family planning (HC.6.1)
- School health services (HC.6.2)
- Prevention of communicable diseases (HC.6.3)
- Prevention of noncommunicable diseases (HC.6.4)
- Occupational health care (HC.6.5)
- All other miscellaneous public health services (HC.6.9)

Similar to the general NHA framework, each NHA subaccount also provides a breakdown of PPH expenditures into subcategories that provide more detail on how PPH expenditures are spent for a specific disease or programmatic area. For the most part, the subcategories for each subaccount correspond to those in the general framework (listed above). However, HIV/AIDS and malaria, which have their own published guidance documents (Partners for Health Reform*plus* 2004, WHO 2011, WHO 2009b), provide further detail on how the HC.6.3 code, prevention of communicable diseases, is broken down into third digit codes.

Subcategories (Third digit codes) for prevention of communicable disease (HC.6.3) in the HIV subaccount:

- Voluntary counseling and testing (VCT) (6.3.1)
- Blood safety (6.3.2)
- HIV information campaigns (6.3.3)
- Sexually transmitted infection (STI) prevention (6.3.4)
- Condom distribution (6.3.5)
- Antiretroviral treatment (ART) (6.3.6)
- Surveillance (6.3.7)
- HIV-TB prevention programs (6.3.8)
- Other (6.3.9)

Subcategories (Third digit codes) for prevention of communicable disease (HC.6.3) in the Malaria subaccount:

- Intermittent preventive treatment in pregnant women and infants (6.3.1)
- Insecticide-treated materials/insecticide-treated bednet activities (6.3.2)
- Indoor residual spraying campaigns (6.3.3)

- Integrated vector control (6.3.4)
- Information, Education, and Communication (IEC)/malaria awareness (6.3.5)
- Surveillance and monitoring (6.3.6)
- Home-based management (6.3.7)
- Other (6.3.8)

2.3 Country Selection

NHA estimations have been completed in 33 countries in Africa. This study compares total PPH expenditures for 16 countries over a five-year period from FY 2005-06 to FY 2009-10.[2] More detailed in-depth analyses were completed for nine countries where the HC.6 classification was broken down further to the second digit code (i.e., maternal and child health; family planning; school health services; prevention of communicable diseases; prevention of noncommunicable diseases; occupational health care; all other miscellaneous public health services). While countries have one to eight years of available NHA data between 2001 and 2010, for the country comparisons in Chapter 3, only the most recent year of NHA data is included. However, a country case study in Namibia (Chapter 5) is included to show trends in PPH expenditures. Namibia was selected for the country case study because it has the most NHA data available: eight consecutive estimations were completed from FY 2001-02 to FY 2008-09.

For the cross-country analysis of PPH expenditures specific to HIV/AIDS, malaria, TB, and reproductive health (Chapter 4), PPH expenditures were examined for all countries in Africa where subaccounts data are available. Again, only the most recent year of data was included in the analysis. **Error! Reference source not found.** presents the year of data used in this report for the general and NHA subaccount analysis.

Table 1: Data Availability for Countries Included in the Study (Latest Year of Data)

Type of NHA	General NHA	HIV Subaccount	Malaria Subaccount	TB Subaccount	Reproductive Health Subaccount
Benin (BEN)	2008	n/a	n/a	n/a	n/a
Burkina Faso (BFA)	2008	2006	2006	2006	n/a
Botswana (BWA)	2009-10	n/a	n/a	n/a	n/a
Cote d'Ivoire (CIV)	2008	2008	n/a	n/a	n/a
Democratic Republic of Congo (DRC)	2008	n/a	n/a	n/a	n/a
Ethiopia (ETP)	2007-08	2007-08	2007-08	2007-08	2007-08
Kenya (KEN)	2009-10	2009-10	2009-10	2009-10	2009-10
Liberia (LBR)	2007-08	n/a	2007-08	n/a	2007-08

[2] NHA data for PPH expenditures (HC.6) were not available for the following countries: Burundi, Egypt, Mali, Niger, Seychelles, Sudan, Swaziland, and Uganda. The following countries were excluded because their latest year of data was prior to 2005: Algeria, Djibouti, Gambia, Ghana, Madagascar, Mali, Morocco, South Africa, and Zimbabwe.

Malawi (MWI)	2008-09	2008-09	2008-09	2005-06	2008-09
Mozambique (MOZ)	2006	n/a	n/a	n/a	n/a
Namibia (NAM)	2008-09	2008-09	n/a	n/a	2008-09
Nigeria (NGA)	2005	n/a	n/a	n/a	n/a
Rwanda (RWA)	2006	2006	2006	n/a	2006
Senegal (SEN)	2007	n/a	n/a	n/a	n/a
Tanzania (TZA)	2009-10	2009-10	2009-10	2005-06	2009-10
Zambia (ZMB)	2006	2006	2006	2006	n/a

2.4 Comparative Analysis of NHA Data

To prepare the data for cross-country analysis, adjustments were made to ensure comparability. The gross domestic product deflator index from the International Monetary Fund's World Economic Outlook database (October 2012) was used to adjust the expenditures data for inflation. The data for each country were converted into 2011 local currency units. The purchasing power parity conversion rate from the World Economic Outlook was then used to convert the data from 2011 local currency units into international U.S. dollars.

In addition, because some countries customized the NHA categories in significant ways, adjustments were made to align the data to the standards of the SHA 1.0 and Guide to Producing NHA. For example, monitoring and evaluation data, when categorized as part of HC.6, were placed as part of HC.7: health administration and health insurance.

2.5 Limitations

2.5.1 Cross-Country Comparisons

The report is limited in that NHA data are only available for some countries and for different years. The lack of a larger data sample limits the interpretation of data because it necessitates the use of NHA data from different fiscal years (FY). Furthermore, limited data means that comparison of health spending is made across countries in different economic categories. For example, 10 of the countries in this analysis are classified as low income, four are lower middle income, and two are upper middle income.

Though the subcategories of HC.6 are considered global standards, there is some variation in how closely countries adhere to them. In some countries, a large amount of HC.6 spending is placed in the catch-all "other miscellaneous public health services." NHA teams in these countries may not able to disaggregate these data into further subcategories as defined in the Guide to Producing NHA because detailed data were not available. As Table 2 reveals, in our sample of nine general NHAs, the percentage of HC.6 spending allocated to the 'other' category averaged only 9.7 percent, with a range of 0 to 45 percent. This issue limits the strength of conclusions drawn from this analysis and the ability to compare results across countries.

Table 2: Percentage of PPH Spending Allocated to 'Other'

Country	Year of Data	Percentage of PPH Spending Allocated to 'Other miscellaneous public health services'
BWA	2009-10	45
CIV	2008	0
DRC	2008	2
ETP	2007-08	14
KEN	2009-10	6
LBA	2007-08	2
NAM	2008-09	12
RWA	2006	5
TZA	2009-10	1

Another comparability issue relates to the provider level analysis. To date, country NHA teams have varied in how they classify prevention expenditures at the provider level. One of the provider classifications within the NHA framework is "provision and administration of public health programs." Given that this classification is very broad, when data are not available in-country, NHA teams may automatically assign any PPH expenditures to this provider.

As Table 3 portrays, in our sample of eight NHAs (the other half were excluded due to lack of data), the range of PPH expenditures that were allocated to the provider type "administration of public health programs" was 45 to 96 percent, averaging 70.9 percent. As a result, the analysis could be limited in its ability to increase understanding of the range of providers for health promotion and disease prevention.

Table 3: Percentage of PPH Spending Provided by Administrators of Public Health Programs

Country	Year of Data	Percentage of PPH Spending Provided by Administrators of Public Health Programs
CIV	2008	60
DRC	2008	61
ETP	2007-08	86
KEN	2009-10	46
LBR	2007-08	45
NAM	2008-09	96
RWA	2006	81
TZA	2009-10	92

2.5.2 Limitations of the NHA Framework Based on SHA 1.0

The NHA framework based on SHA 1.0 contains several issues in its composition and application. Issues relevant to this analysis include the following:

- Certain activities that fall outside of health, especially health promotion activities that embody a multi-sectorial approach, are not captured by the NHA framework. Hence, the analysis is intended to deepen our understanding of PPH services, but the NHA captures only the health components of activity spending in these areas and therefore cannot comprehensively account for all spending towards these interventions.
- Overall, the old NHA framework was weighted heavily towards care. The health care function categories are more complete, while relatively few categories are assigned to health promotion and disease prevention. The framework also does not sufficiently capture details on spending for NCDs.
- The NHA framework does not directly map or link financing sources (FS) to health care functions (HC). Therefore, the NHA does not break down spending on PPH services by source (donors, central government) and can only break down spending by financing agent (Ministry of Health, NGOs, households, employers, insurers). This limitation is particularly evident in the Namibia case study, where we cannot determine whether the increase in PPH spending over the eight-year period is a result of greater investment on behalf of the government or of donors.
- As with all accounting frameworks, categories must be mutually exclusive and collectively exhaustive of all possible health expenditures. However, there is limited guidance on the boundary of PPH services to ensure consistent application.

These limitations, and their potential solutions under the SHA 2011 framework, are discussed in more detail in Chapter 6.

3. RESULTS

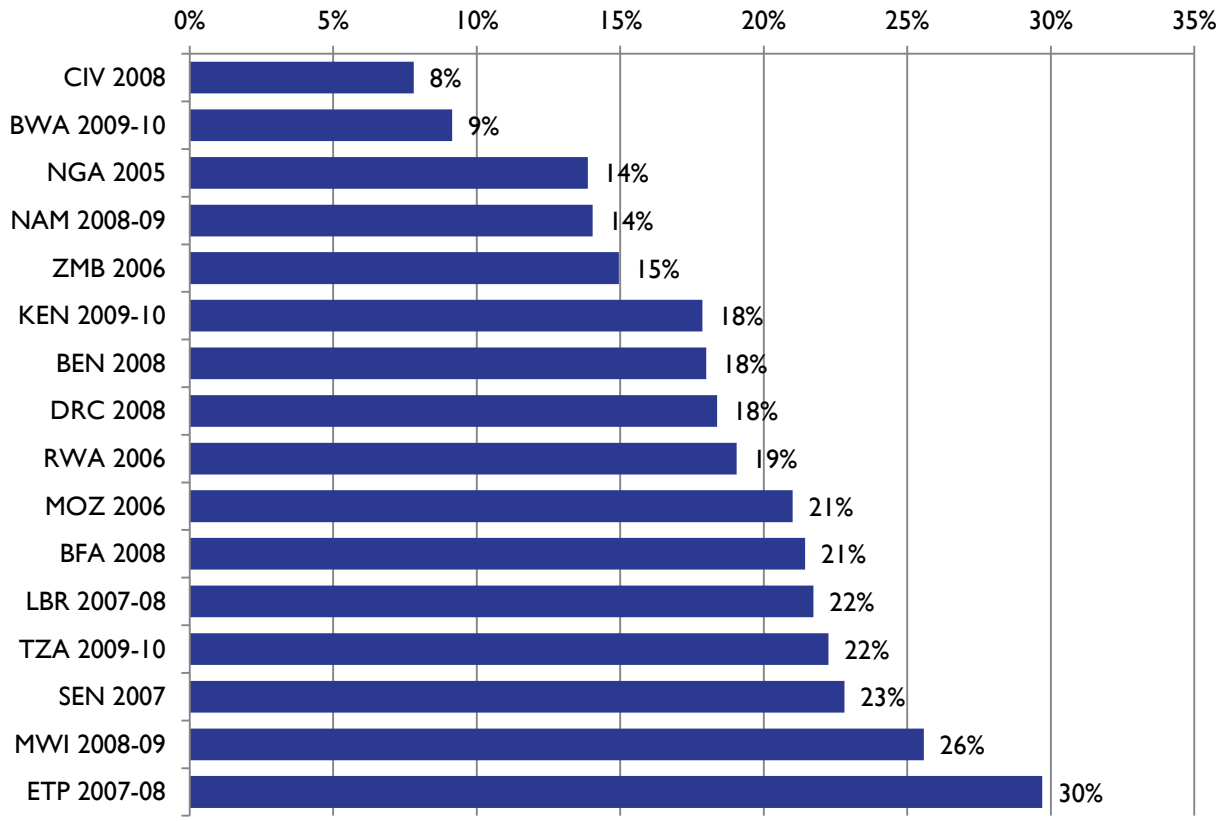
Chapter 3 presents NHA data to determine how health expenditures are allocated to PPH in 16 countries in Africa. This chapter answers six research questions.

3.1 What is the Share of Spending on PPH at the Country Level Relative to Total Health Expenditures?

As Figure 2 displays, Cote d'Ivoire and Botswana spent the smallest proportion of THE on PPH. Both countries contributed less than 10 percent of THE towards PPH services based on the latest year of data available.

On the other end of the spectrum, Malawi and Ethiopia spent 26 percent and 30 percent, respectively, of THE on PPH. In Malawi, one of the seven building blocks outlined in the National Health Care Program is disease prevention and health promotion strengthening. In Ethiopia, prevention services, including immunizations, information, counseling and testing for HIV and TB, and prevention of mother-to-child transmission (PMTCT) services are available free of charge.

Figure 2: PPH Expenditures* as a Percentage of THE



*PPH expenditures refer to the aggregate of HC.6 PPH services; they include spending on both health promotion and disease prevention activities.

3.2 What Is the Health Expenditure on PPH Per Capita?

Even if countries have a higher proportion of PPH spending as compared to other health areas, they may spend less than other countries when it comes to per capita spending. For example, in terms of total PPH expenditures per capita (Table 4), expenditures were the greatest in Namibia (US$62) and Botswana (US$64) and lowest in DRC (US$3) and Mozambique (US$5). Both Namibia and Botswana were on the lower spectrum when looking at total PPH expenditures as a percentage of THE. While PPH expenditures as a proportion of THE was the highest in Ethiopia, Ethiopia's total PPH expenditure per capita is lower when compared to other countries.

Table 4: THE per Capita and PPH Expenditure by Country

Country	Year of Data	THE per Capita (USD)	PPH Expenditure per Capita (USD)	PPH Expenditure as % of THE
BEN	2008	71	13	18%
BFA	2008	85	18	21%
BWA	2009-10	695	64	9%
CIV	2008	112	9	8%
DRC	2008	14	3	18%
ETP	2007-08	42	13	30%
KEN	2009-10	74	13	18%
LBR	2007-08	59	13	22%
MOZ	2006	21	5	21%
MWI	2008-09	91	23	26%
NAM	2008-09	445	62	14%
NGA	2005	147	20	14%
RWA	2006	100	19	19%
SEN	2007	89	20	23%
TZA	2009-10	100	22	22%
ZMB	2006	82	12	15%

*All figures are in international U.S. 2011 dollars.

**Population figures from World Bank 2012 were used for these estimates.

3.3 How Does PPH Spending Compare to Spending in Other Health Areas?

Figure 3 is the basis for the following findings:

In all 16 countries, health expenditures are primarily allocated to five categories: These include (1) curative care, (2) medical goods, (3) PPH services (4) health administration and health insurance, and (5) capital formation and expenditures not specified by kind. In all countries, there was minimal to no spending for rehabilitative care, long-term nursing care, and ancillary services to medical care. Box 3 summarizes all health care functions tracked by the NHA.

Box 3: NHA Refresher: What health care functions does the NHA track?

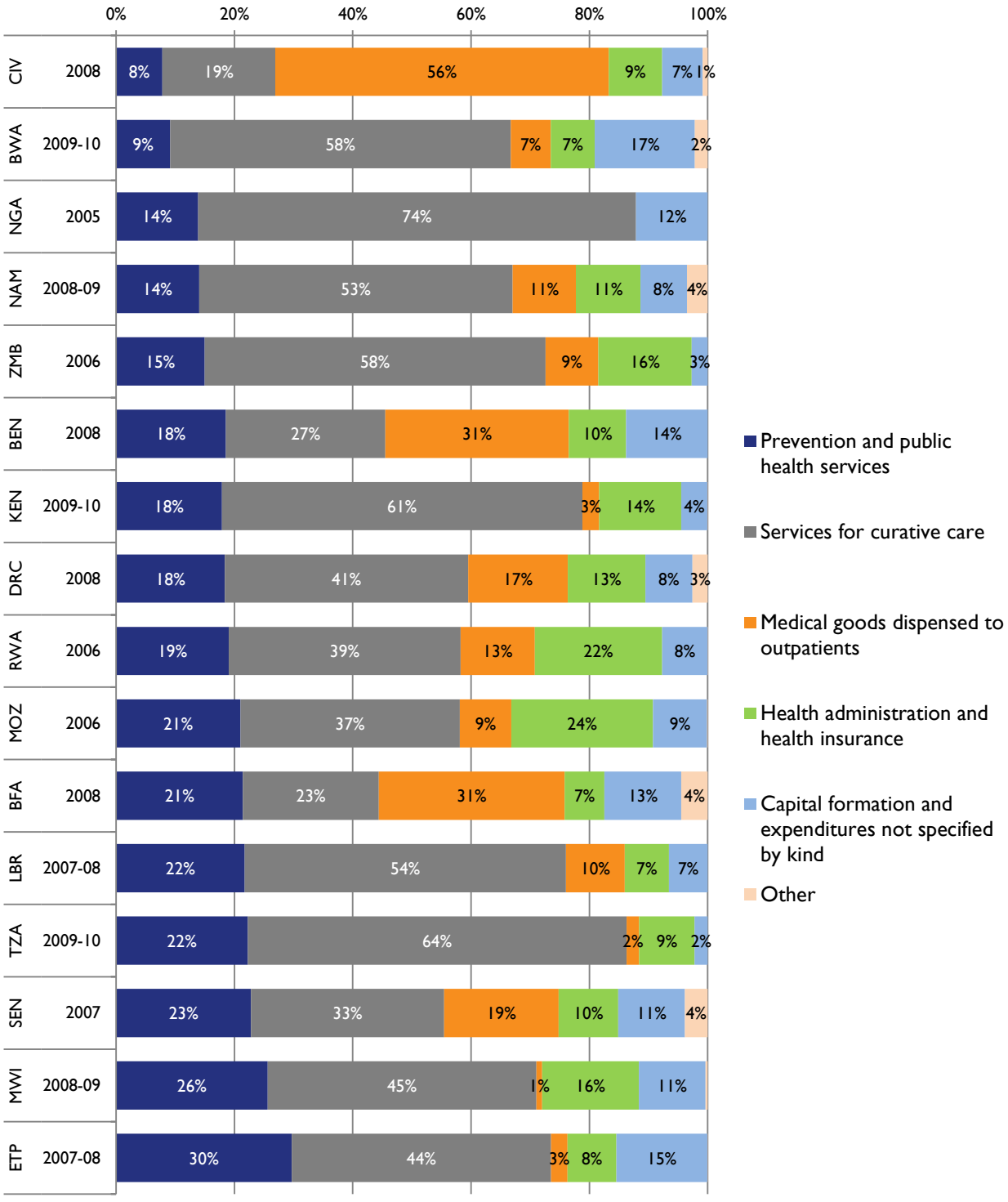
- Services of curative care
- Services of rehabilitative care
- Services of long-term nursing care
- Ancillary services to medical care
- Medical goods dispensed to outpatients
- PPH services
- Health administration and health insurance
- Capital formation (i.e. infrastructure, machinery, equipment)
- Expenditures not specified by kind (data are not available to determine the health care function)

The largest share of THE in the majority of countries is allocated towards curative care: In all countries except for Cote d'Ivoire, Benin, and Burkina Faso, spending for curative care accounts for the largest percentage of THE, ranging from 33 percent to 74 percent. In the three countries where curative care was not the largest expenditure, the majority of THE was spent on medical goods dispensed to outpatients. Expenditures on PPH ranged from 8 percent to 30 percent, and in most countries were the second largest expenditure category.

Implications: Examining the breakdown of THE by function raises questions about the best balance between investment in PPH services as opposed to curative services. What is the optimal level of investment in PPH? Have countries that have invested heavily in PPH services experienced improved health outcomes as compared to countries with lower levels of investment?

Beyond access to health services, there are social and economic conditions that affect the health of communities. These social determinants of health are relevant to communicable and non-communicable disease alike. Poverty in the form of material deprivation (i.e. dirty water, poor nutrition) in addition to lack of access to quality medical care accounts for poor health of individuals and societies. Therefore, strengthening the health system and its performance can partially improve the health of communities. The link between health and social and economic development should also be considered (Marmot 2013).

Figure 3: Spending on Health Care Functions as a Percentage of THE



"Other" includes spending on services of rehabilitative care, services of long-term nursing care and ancillary services to medical care

3.4 What Is the Distribution of PPH Expenditures?

Of the 16 countries examined in this study, nine provided detailed information on how PPH expenditures are spent.

Figure 4 is the basis for the following findings:

Box 4: NHA Refresher: What PPH expenditures does the NHA track?

- Maternal and child health; family planning and counseling
- School health services
- Prevention of communicable diseases
- Prevention of NCDs
- Occupational health care
- All other miscellaneous public health services

Prevention of communicable disease is the largest expenditure in most countries relative to other PPH categories: Prevention of communicable diseases is the largest expenditure in eight of the nine countries examined. The exception is DRC where maternal and child health (MCH) and family planning (FP) were the categories that accounted for the largest share of total PPH expenditures (57 percent). As a percentage of total PPH expenditure, the category of prevention of communicable disease ranged from 41 percent in DRC to 99 percent in Tanzania. Box 4 presents all PPH expenditure categories tracked by the NHA.

Spending on prevention of NCDs, occupational health care and school health services is minimal: Seven countries (Botswana, Cote d'Ivoire, Kenya, Rwanda and Tanzania) reported spending on NCDs, averaging 0.48 percent of total PPH expenditures. Six countries (Botswana, Cote d'Ivoire, Kenya, Liberia, Rwanda and Tanzania) reported expenditures on school health services, averaging 1.39 percent of total PPH expenditures. Three countries (Kenya, Namibia and Tanzania) reported spending on occupational health care, averaging 0.57 percent of total PPH expenditures.

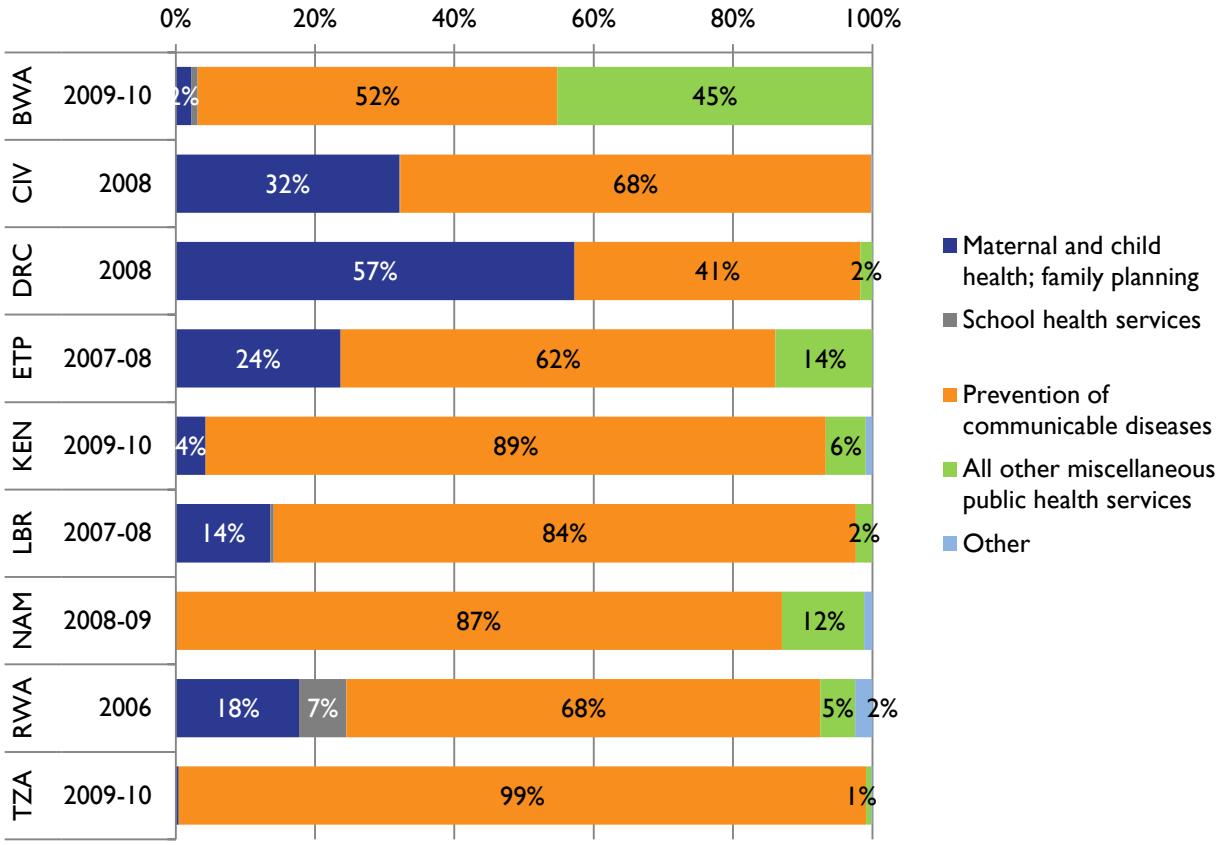
Health promotion, which is not a standard international classification for health care functions, was added by Cote d'Ivoire and Rwanda: The data revealed that in Cote d'Ivoire health promotion accounted for 2 percent of expenditures in 2008, and in Rwanda it accounted for 10 percent of expenditures in 2006. Given that this category has not been standardized, other countries may have included this type of expenditure within a different code, such as prevention of communicable diseases or "other." The Rwanda NHA describes health promotion to include family planning, sensitization on hygiene, and prevention of STIs. No definition is provided in the Cote d'Ivoire NHA.[3]

Implications: The distribution of expenditures among PPH categories needs to be considered in light of the specific data available and the method applied in each country. For example, expenditures that would be classified as MCH and FP may have been difficult to identify from the data available in Tanzania and Namibia (the two countries that did not report any MCH/FP expenditures), and may therefore be classified in a different category.

With this limitation in mind, when examining the breakdown of PPH expenditures, we found that the majority of countries reported the most spending on prevention of communicable diseases while expenditures for NCDs were minimal in every country. In some countries, NCD spending could be classified in the catch-all "other" category or fall outside the boundary of "health" in the NHA.

[3] For the purpose of this study, health promotion in both countries was combined with prevention of communicable disease to ensure comparability between countries.

Figure 4: Distribution of PPH Expenditures



"Other" includes spending on prevention of NCDs and occupational health care.

3.5 Who Manages PPH Spending?

Of the 16 NHA estimations examined in this study, 13 provided details on the financing agents of PPH expenditures. Figure 5 is the basis for the following findings:

Funds allocated towards PPH are primarily managed by three agents: These agents include governments, international and local nonprofit institutions serving households (NPISH),[4] and donors. Box 5 presents all financing agents tracked by the NHA. In all countries, minimal expenditures were managed by social security funds, government employee insurance programs, private insurance enterprises, or private parastatal companies.

Box 5: NHA Refresher: What financing agents does the NHA track?

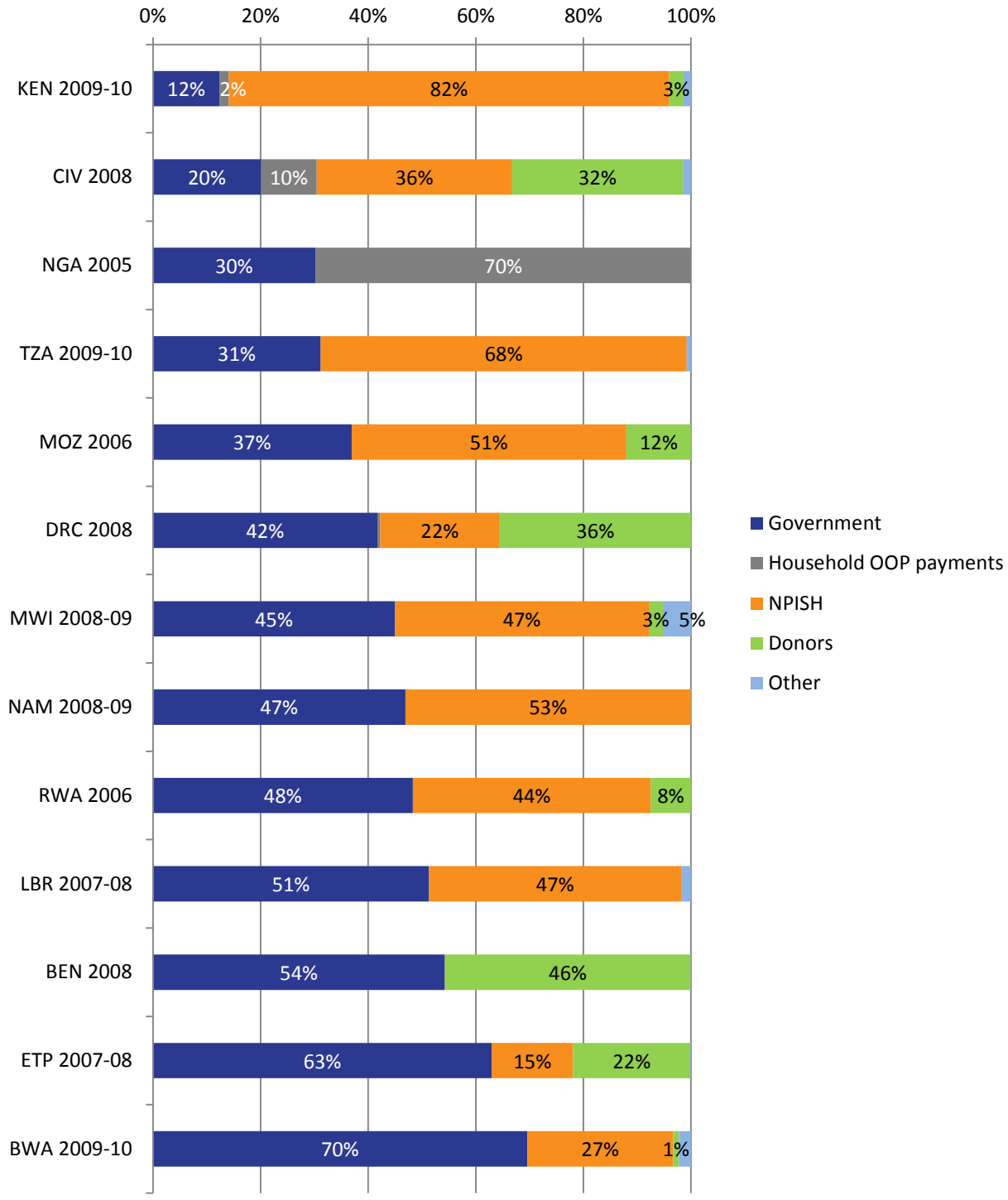
- Government
- Private sector
  - Private social insurance
  - Other private insurance
  - Private household out-of-pocket payment
  - Nonprofit institutions serving households (NPISH)
  - Private firms and corporations (other than health insurance)
- Rest of the world (donors)

For four of the countries in this study, the largest financing agent of PPH was the government, while in another eight countries, the largest share was managed by NPISH and donors: The share of PPH expenditures managed by the government ranges from 12 percent in Kenya to 70 percent in Botswana. The share of PPH expenditures managed by NPISH ranges from less than 1 percent in Benin to 82 percent in Kenya. Funds managed by donors range from 0 percent in Namibia to 46 percent in Benin. Nigeria is an outlier: the main financing agent reported in the NHA is private household out-of-pocket payment.

Implications: PPH activities are public goods, and therefore strong governance is key for the stewardship of these programs. It is important for donors and governments to work together and ensure that PPH programs are aligned with country government interventions.

[4] According to the Guide for Producing NHA, NPISH is defined as "a social entity created for the purpose of producing goods and services, whose status does not permit it to be a source of income, profit or other financial gains." NPISH includes domestic and international NGOs.

Figure 5: Distribution of PPH Expenditures by Financing Agents



"Other" includes private social insurance, other private insurance and private firms and corporations (other than health insurance).

3.6 Who are the Providers of PPH Services?

Figure 6 shows the distribution of expenditures across the various types of health providers (HP) of PPH. Note that half of the NHAs in this study did not provide data on the breakdown of health providers. Key findings from health provider level data include the following:

In six of the eight countries, the majority of PPH expenditures go to agencies that administer prevention or promotion activities. Providers and administrators of public health programs are defined as private or government agencies that administer prevention or promotion activities. The PPH expenditures received by this category ranges from 45 percent in Liberia to 96 percent in Namibia. However, as discussed in the methodology section, NHA teams will sometimes automatically link certain health providers with health care functions as part of their understanding of the meaning of the categories. The variance in interpretation is a limitation within the NHA methodology, and should be kept in mind when reviewing the provider level results. Box 6 presents all health providers tracked by the NHA.

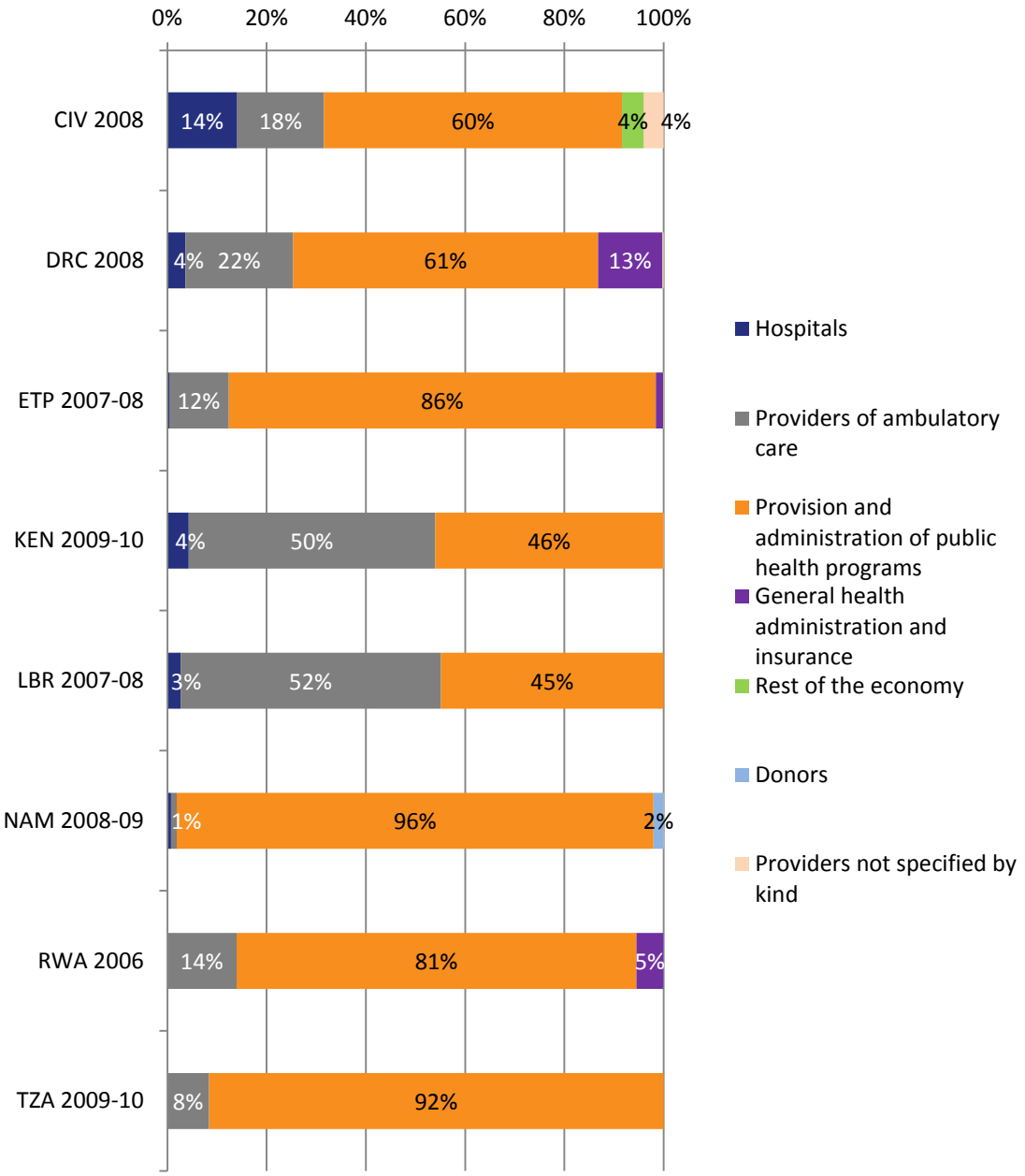
Box 6: NHA Refresher: What health providers does the NHA track?

- Hospitals
- Nursing and residential care facilities
- Providers of ambulatory health care
- Retail sale and other providers of medical goods
- Provision and administration of public health programs
- General health administration and insurance
- Rest of the economy
- Rest of the world (donors)
- Providers not specified by kind (data are not available to determine the provider)

In two of the eight countries, the largest share of PPH expenditures goes to health providers of ambulatory health care: 50 percent in Kenya and 52 percent in Liberia. Providers of ambulatory health care administer services directly to outpatients. These providers could include offices of physicians, dentists, or other health practitioners; outpatient care centers; medical and diagnostic laboratories; or home health care services.

Implications: The data indicate that administrators of public health programs usually account for the most PPH expenditures. However, this health provider category is very broad, and more specific data on the type of public health administrator are commonly not available. The use of this information is therefore limited. Further discussion on how to better capture health providers of PPH is included in Chapter 6.

Figure 6: Distribution of PPH Expenditures by Type of Provider



4. PPH EXPENDITURES IN THE AREAS OF HIV, MALARIA, TB, AND REPRODUCTIVE HEALTH

This chapter presents PPH expenditure data that are specific to HIV, malaria, TB, and reproductive health.

4.1 Background

Since 2002, the global landscape for HIV, malaria, TB and reproductive health has changed dramatically. In 2002, the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) was developed to "dramatically increase resources to fight three of the world's most devastating diseases, and to direct those resources to areas of greatest need" (Global Fund 2012). As of 2012, the Global Fund works in 151 countries and has provided 82 percent of the world's funding for TB, 50 percent for malaria, and 21 percent for HIV (Global Fund 2012). Key results of the Global Fund include providing 4.2 million people with antiretrovirals, treating 9.7 million people with therapy for TB, and distributing 310 million insecticide-treated bednets to prevent malaria infections (Global Fund 2012).

One year after the Global Fund was created, U.S. President George W. Bush committed US$15 billion towards the President's Emergency Plan for AIDS Relief (PEPFAR) with the goal of combating HIV in the developing world over a five-year period, from 2003 to 2008 (at the end of the five years, a total of US$18.1 billion was spent). From 2009 to 2012 under PEPFAR II, the Obama Administration has obligated approximately US$26 billion for HIV programs throughout the world (PEPFAR 2012). As of FY2012, the U.S. government has provided testing and counseling to 11 million pregnant women, PMTCT services to 750,000 women (thereby averting 230,000 infants being infected with HIV), and voluntary counseling and testing to 47 million people (PEPFAR 2012). Through PEPFAR, 15 million people have received care and support for their HIV infections (PEPFAR 2012).

While reproductive health has not attracted the same amount of funding as HIV, malaria, and TB, improving access to reproductive health services across the continuum of care is recognized as a priority for social and economic development (World Health Organization 2009a). Donors, development partners, and governments have made progress in many areas such as in increasing the use and choice of contraception, reducing unintended pregnancies, reducing maternal deaths, and improving access to prenatal and postnatal care (World Health Organization 2012).

The NHA is able to capture PPH expenditures through data collected during HIV, malaria, TB, and reproductive health subaccount estimations. Fewer countries have completed NHA subaccounts as compared to general NHA estimations. The next sections present snapshots of PPH spending in these areas in countries where data are available. Questions guiding this analysis include the following:

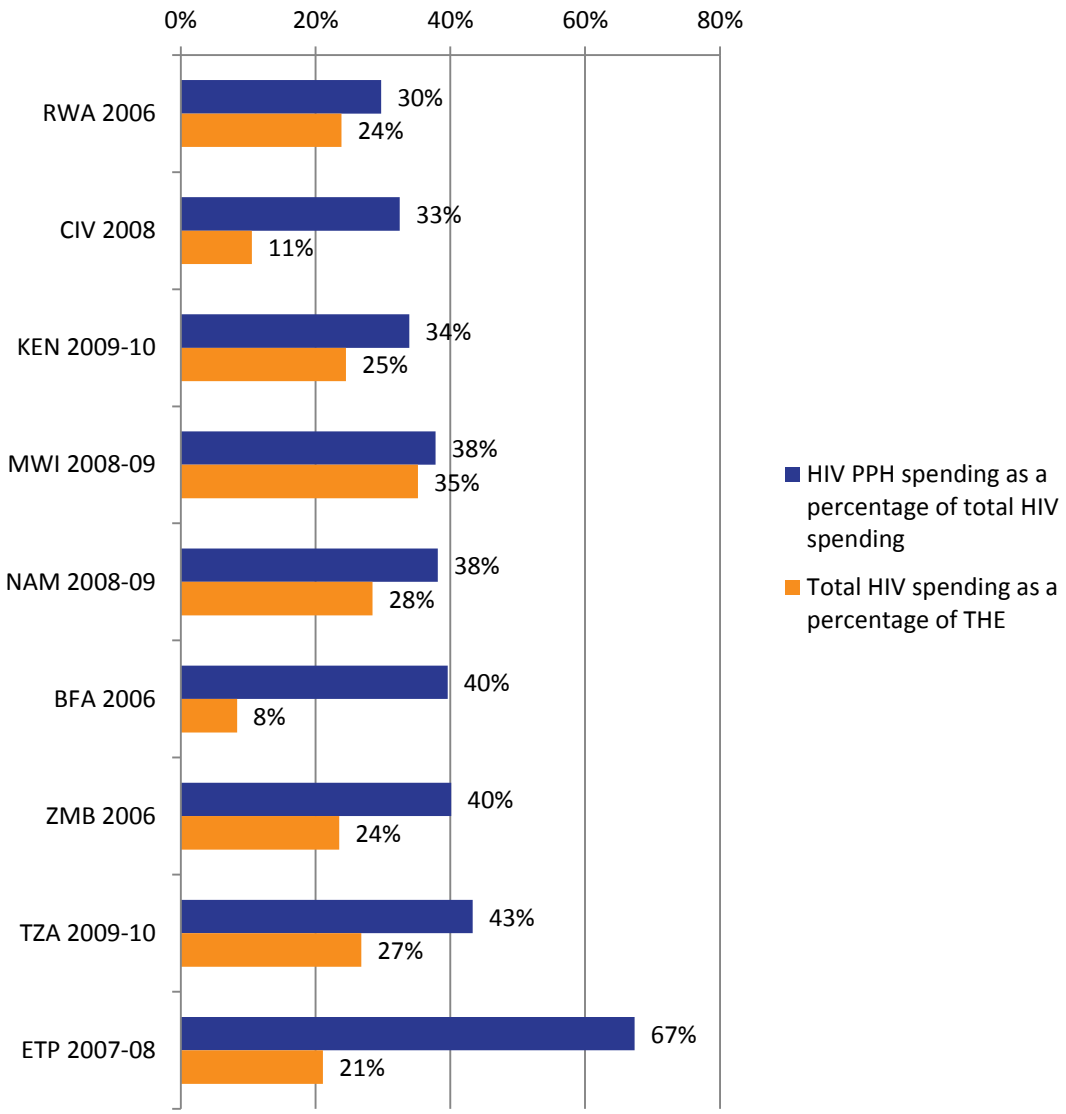
- What proportion of disease-specific spending is allocated to PPH?
- Which countries spent the most on disease-specific PPH?
- How does disease-specific PPH spending compare to spending on other health care functions?
- How are disease-specific PPH expenditures allocated to different interventions?

4.2 HIV PPH Expenditures

What proportion of HIV spending is allocated to PPH? HIV subaccounts, which track spending for HIV programming, have been completed in 12 countries in Africa. Of these 12 countries, nine have available data on HIV prevention expenditures. The results summarized in Figure 7 show the following:

- Total HIV spending as a percentage of THE ranges from 8 percent in Burkina Faso to 35 percent in Malawi.
- PPH spending as a percentage of total HIV spending ranges from 30 percent in Rwanda to 67 percent in Ethiopia.

Figure 7: Expenditures on HIV



Which countries spent the most on HIV PPH? When looking at the gross and per capita amounts, the picture is slightly different. As Table 5 illustrates, Namibia spent the most per capita on HIV, and the most per capita on PPH specific to HIV, while Burkina Faso spent the least in both areas. Ethiopia, which allocated the largest share of total HIV spending towards PPH, spent a total of US$7.66 per capita. Namibia has the highest prevalence of HIV, while Burkina Faso has the lowest.

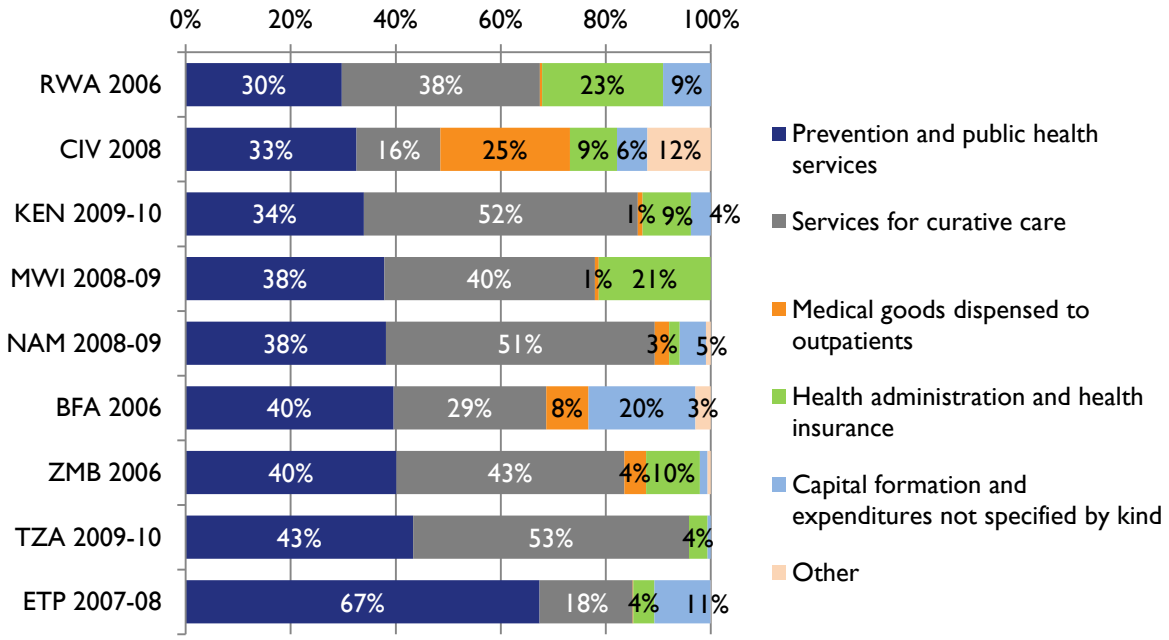
Table 5: Spending on HIV and HIV PPH

Country	Year of data	HIV prevalence (percent)	HIV spending (USD)	HIV PPH spending (USD)	HIV spending per capita (USD)	HIV PPH spending per capita (USD)
BFA	2006	1.5	112,757,347	44,649,836	7.27	2.88
CIV	2008	3.6	223,750,827	72,728,791	11.78	3.83
ETP	2007-08	1.9	710,720,903	478,642,076	11.38	7.66
KEN	2009-10	6.2	738,492,890	250,475,530	9.30	3.15
MWI	2009-10	10.9	462,995,737	175,060,045	11.43	4.32
NAM	2008-09	13.7	283,906,475	108,289,913	126.63	48.30
RWA	2006	3.1	224,411,885	66,748,270	23.77	7.07
TZA	2009-10	5.8	1,206,713,486	522,938,610	26.91	11.66
ZAM	2006	13.6	225,649,509	90,597,510	19.20	7.71

*Health outcome data from World Bank 2012. The health outcome data is reported in the same year as the NHA data.

How does HIV PPH spending compare to spending on other HIV health care functions? Curative care had the largest share of HIV spending in six of the nine countries where data were available, followed closely by PPH services. In the remaining three countries, PPH services accounted for the largest share, as illustrated in Figure 8.

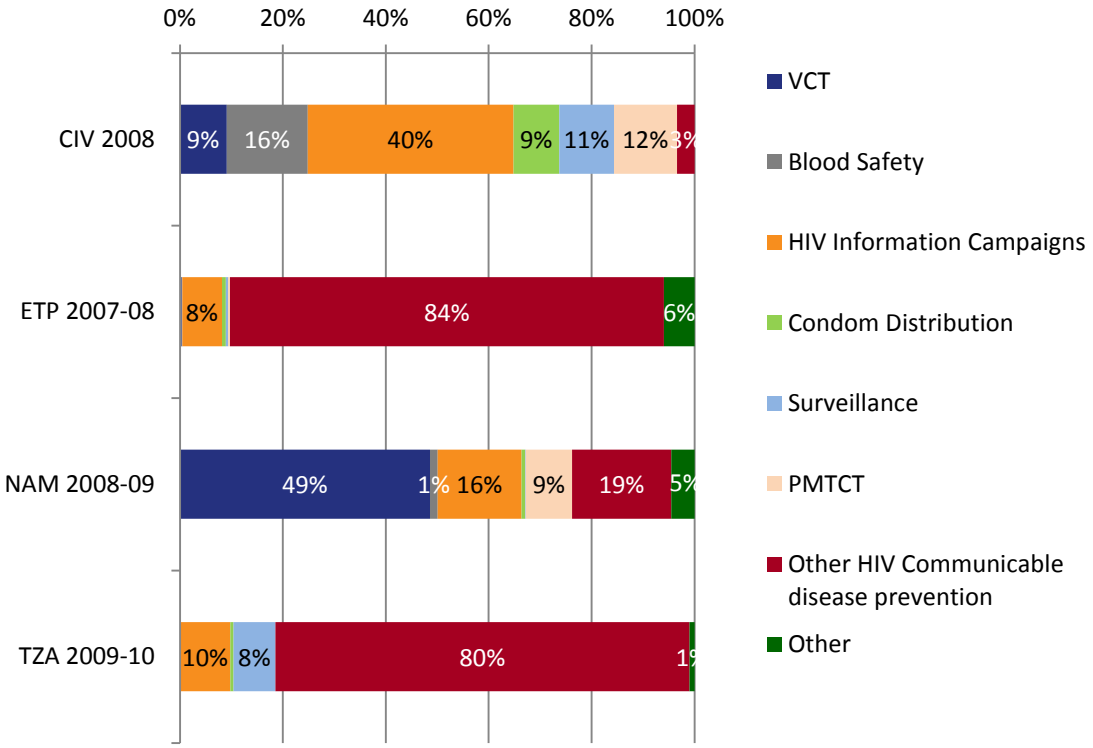
Figure 8: HIV Spending as a Proportion of THE by Health Care Function



"Other" includes: services for rehabilitative care, long term nursing care and ancillary services to medical care.

How are HIV PPH expenditures allocated to different interventions? Detailed breakdowns of PPH expenditures were available in four countries, as shown in Figure 9. The breakdown varies widely by country: Ethiopia and Tanzania each spent 80 percent or more on "other communicable disease prevention." Cote d'Ivoire spent 40 percent of HIV PPH expenditures on HIV information campaigns and less than 20 percent on each of the remaining health care functions, while Namibia spent about half of PPH HIV expenditures on voluntary counseling and testing (VCT). These results may reflect the various contexts of the HIV epidemic in each country and thus different priorities for how funds for HIV PPH were spent relative to other areas captured by the NHA.

Figure 9: HIV PPH spending as a Proportion of HIV Spending by PPH Priority Area



"Other" includes: STI programs, nutritional programs, HIV-TB prevention programs, occupational health care and other miscellaneous public health services.

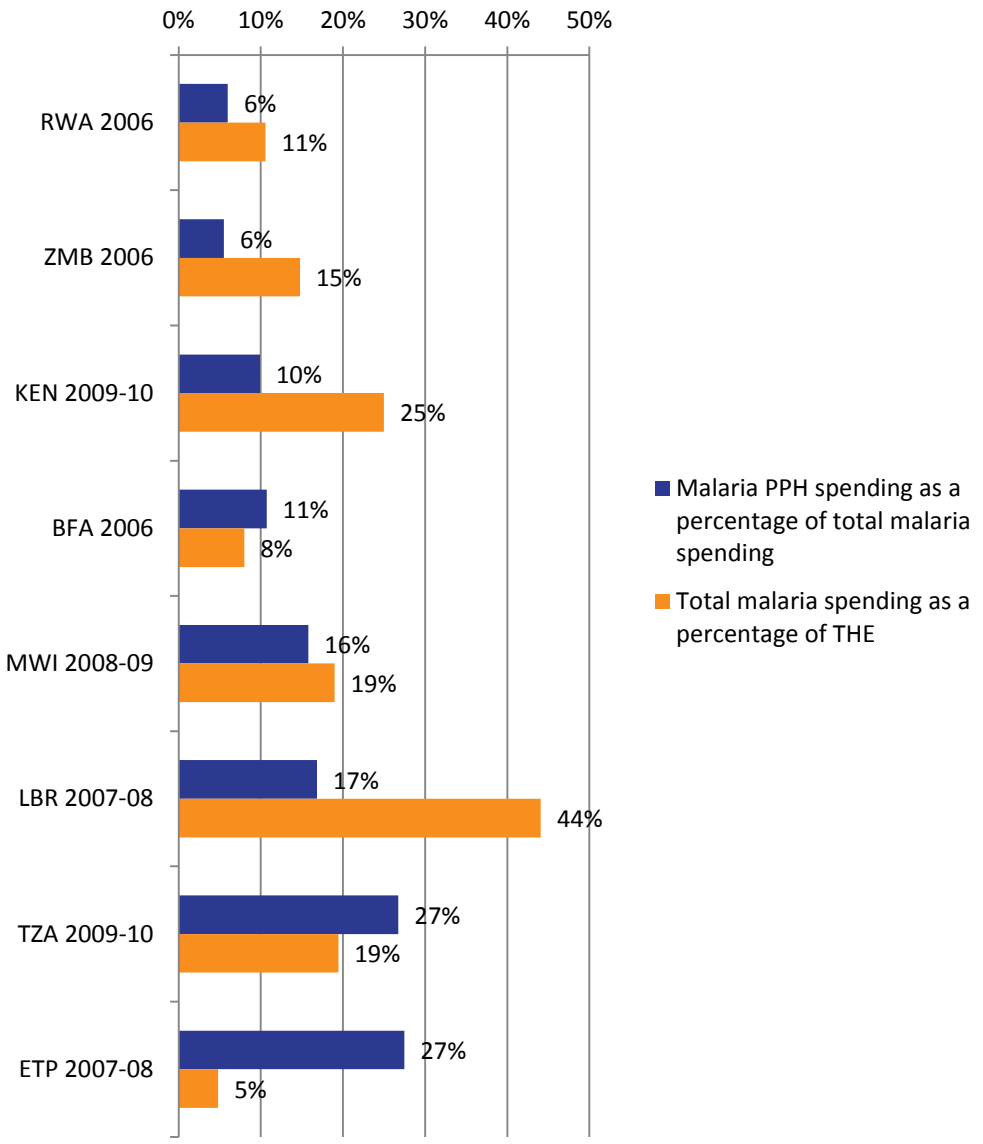
Implications: A large proportion of HIV spending is allocated towards PPH as compared to other disease areas, with PPH receiving at least one-third of all HIV spending. This is higher than the PEPFAR I original funding priorities, which call for countries to spend at least 20 percent of PEPFAR funds on HIV prevention activities (U.S. Congress 2003). This allocation to prevention is also higher than the average approved PEPFAR II funding for prevention in 2011, which was 28 percent for countries that prepared operational plans (Kaiser Family Foundation 2013).

4.3 Malaria PPH Expenditures

What proportion of malaria spending is allocated to PPH ? Malaria subaccounts, which track spending for malaria programming, have been completed in eight countries in Africa. The results summarized in Figure 10 show the following:

- Total malaria spending as a percentage of THE ranges from a low of 5 percent in Ethiopia to a high of 44 percent in Liberia.
- PPH spending as a percentage of total malaria spending ranges from a low of 6 percent in Rwanda and Zambia to a high of 27 percent in Ethiopia and Tanzania.

Figure 10: Expenditures on Malaria



Which countries spent the most on malaria PPH? As Table 6 reveals, Ethiopia and Burkina Faso spent the least on malaria per capita and malaria PPH per capita respectively. Liberia spent the most on malaria per capita, but Tanzania spent the most on malaria PPH per capita. Relative to the other countries, Ethiopia, which had the highest malaria PPH spending as a proportion of total malaria spending, had among the lowest malaria PPH spending per capita. Burkina Faso had the highest number of notified cases of malaria per 100,000 people, while Rwanda had the lowest.

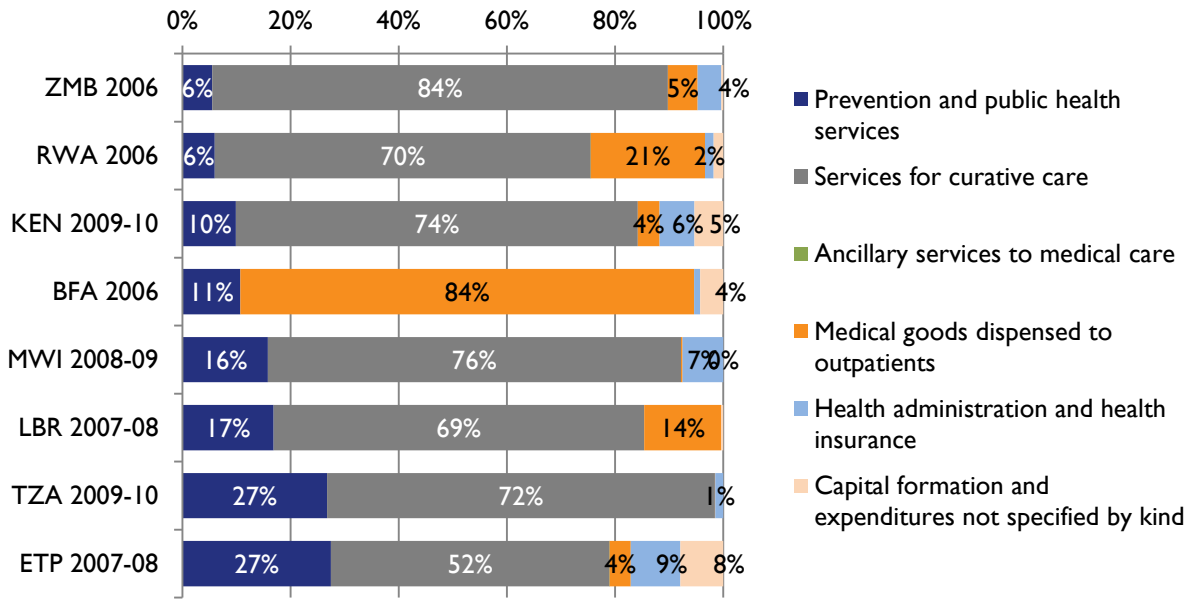
Table 6: Spending on Malaria and Malaria PPH

Country	Year of data	Notified cases of malaria per 100,000 people	Malaria spending (USD)	Malaria PPH spending (USD)	Malaria spending per capita (USD)	Malaria PPH spending per capita (USD)
BFA	2006	45,322	99,281,203	10,641,138	6.40	0.69
ETP	2007-08	11,509	162,166,586	44,528,351	2.04	0.56
KEN	2009-10	30,307	751,714,219	74,410,541	18.56	1.84
LBR	2007-08	29,994	94,348,883	15,882,563	25.79	4.34
MWI	2008-09	33,773	249,900,934	39,419,300	17.30	2.73
RWA	2006	11,429	99,419,233	5,956,220	10.53	0.63
TZA	2009-10	24,088	875,270,006	234,049,509	19.52	5.22
ZAM	2006	13,456	141,663,331	7,818,316	12.06	0.67

*Population and health outcome data from World Bank 2012. The health outcome data is reported in the same year as the NHA data.

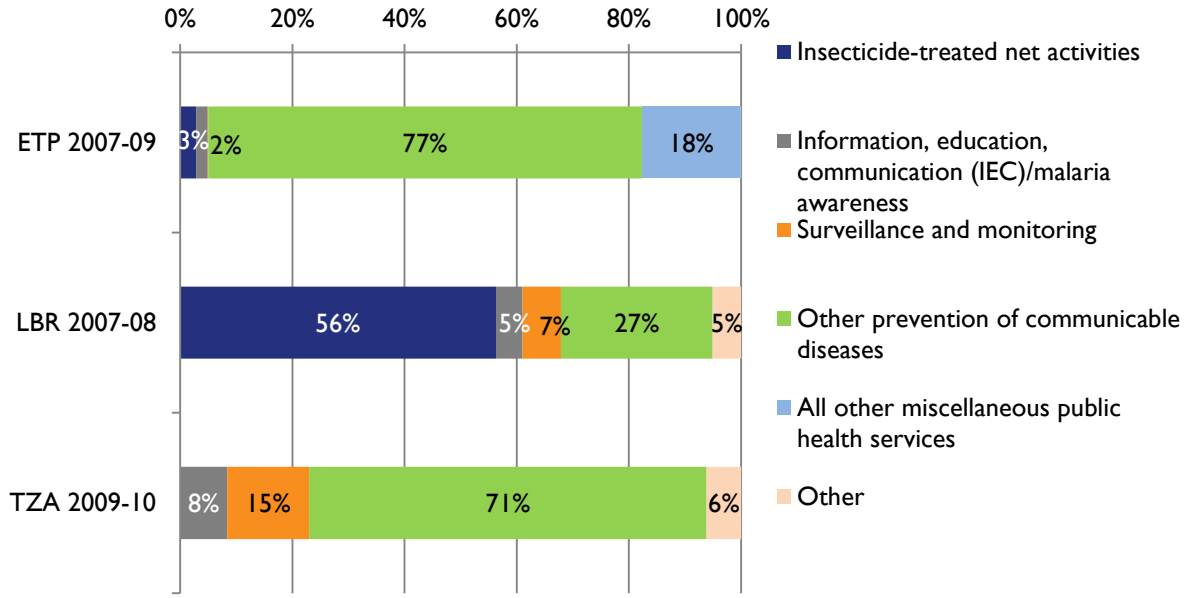
How does malaria PPH spending compare to spending on other malaria health care functions? In seven of the eight countries that have completed malaria subaccounts, the majority of malaria spending as a proportion of THE was spent on services for curative care, as shown in Figure 11. Burkina Faso was the exception, where the majority was spent on medical goods dispensed to outpatients. All countries spent less than one-third of malaria expenditures on PPH.

Figure 11: Malaria Spending as a Proportion of THE by Health Care Function



How are malaria PPH expenditures allocated to different interventions? Only three countries provided detail on how PPH expenditures are spent. Furthermore, Ethiopia and Tanzania provided limited details, as PPH expenditures are classified as 'other prevention of communicable diseases,' thereby affecting cross-country comparisons. Data on Liberia indicate that more than half of expenditures went towards insecticide-treated bednet activities (see Figure 12).

Figure 12: Malaria PPH Spending as a Proportion of Malaria Spending by PPH Priority Area



"Other" includes: school health services, intermittent preventive treatment in pregnant women and infants, indoor residual spraying campaigns, integrated vector control and home based management.

Implications: In Burkina Faso, which has the highest malaria prevalence overall, 84 percent of all malaria expenditures are for medical goods dispensed to outpatients. This finding calls into question whether countries with higher prevalence rates of malaria, such as Burkina Faso, Malawi, Liberia, and Kenya, should be investing more in prevention activities, particularly since the use of insecticide-treated bednets in these countries is still low: the use of insecticide-treated bednets in the population under the age of five is 56.5 percent in Malawi, 26.4 percent in Liberia, and 46.7 percent in Kenya (World Bank 2012). Data for Burkina Faso were unavailable.

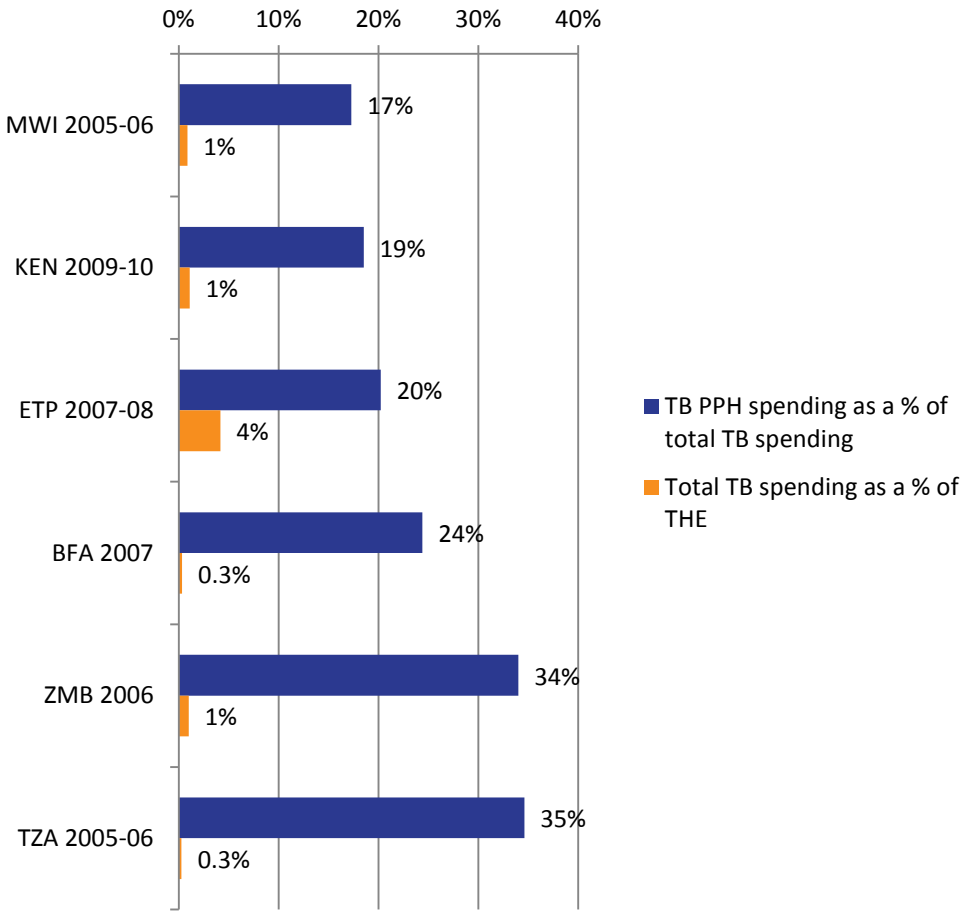
4.4 TB PPH Expenditures

What proportion of TB spending is allocated to PPH? TB subaccounts, which track spending for TB programming, have been completed in six countries in Africa.

Figure 13 is the basis for the following findings:

- Total TB spending as a percentage of THE is approximately 1 percent or less in all countries, except for Ethiopia, where it is 4 percent.
- PPH spending as a percentage of total TB spending ranges from a low of 17 percent in Malawi to 35 percent in Tanzania.

Figure 13: Expenditures on TB



Which countries spent the most on TB PPH? As Table 7 indicates, TB spending per capita was low in all countries examined, ranging from US$0.27 in Tanzania to US$1.77 in Ethiopia. Per capita TB PPH spending was even lower, ranging from US$0.07 in Burkina Faso to US$0.36 in Ethiopia. Burkina Faso has the lowest prevalence of TB per 100,000 people, while Zambia has the highest.

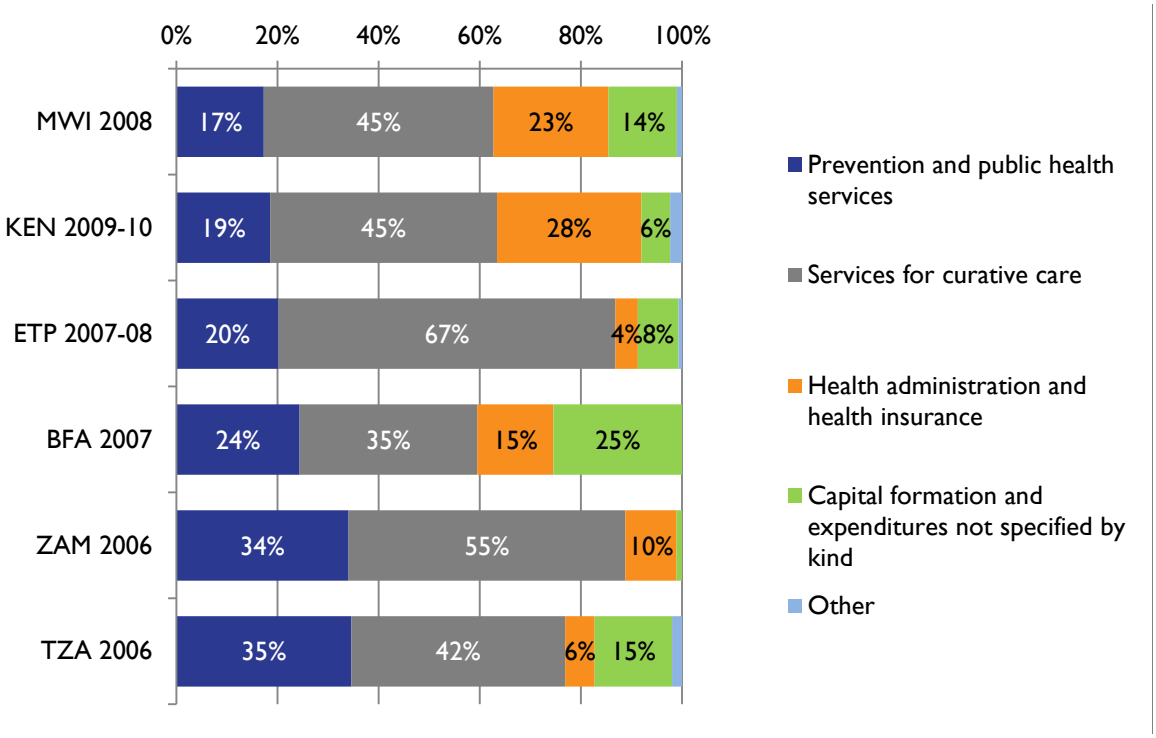
Table 7: Spending on TB and TB PPH

Country	Year of data	Prevalence of TB per 100,000 people	TB spending (USD)	TB PPH spending (USD)	TB spending per capita (USD)	TB PPH spending per capita (USD)
BFA	2007	99	4,335,814	1,057,358	0.28	0.07
ETP	2007-08	280	140,616,195	28,433,583	1.77	0.36
KEN	2009-10	288	33,126,107	6,293,960	0.82	0.16
MWI	2005-06	244	11,555,966	1,998,171	0.88	0.15
TZA	2005-06	186	12,159,149	4,207,066	0.27	0.09
ZMB	2006	397	9,659,339	3,284,175	0.82	0.28

*Population and health outcome data from World Bank 2012. The health outcome data is reported in the same year as the NHA data.

How does TB PPH spending compare to spending on other TB health care functions? In every country, services for curative care accounted for the majority of TB expenditures. Spending on PPH services ranged from a low of 17 percent in Malawi to 35 percent in Tanzania.

Figure 14: TB Spending as a Proportion of THE by Health Care Function



"Other" includes services for rehabilitative care, services for long term care, ancillary services to medical care and medical goods dispensed to outpatients.

How are TB PPH expenditures allocated to different interventions? Ethiopia was the only country with data that provided detail on how PPH expenditures were allocated. However, 84 percent of the country's expenditures were classified as 'other TB prevention,' and 14 percent were classified as 'other miscellaneous public health services.' This indicates that limited data were available to determine how PPH expenditures were spent.

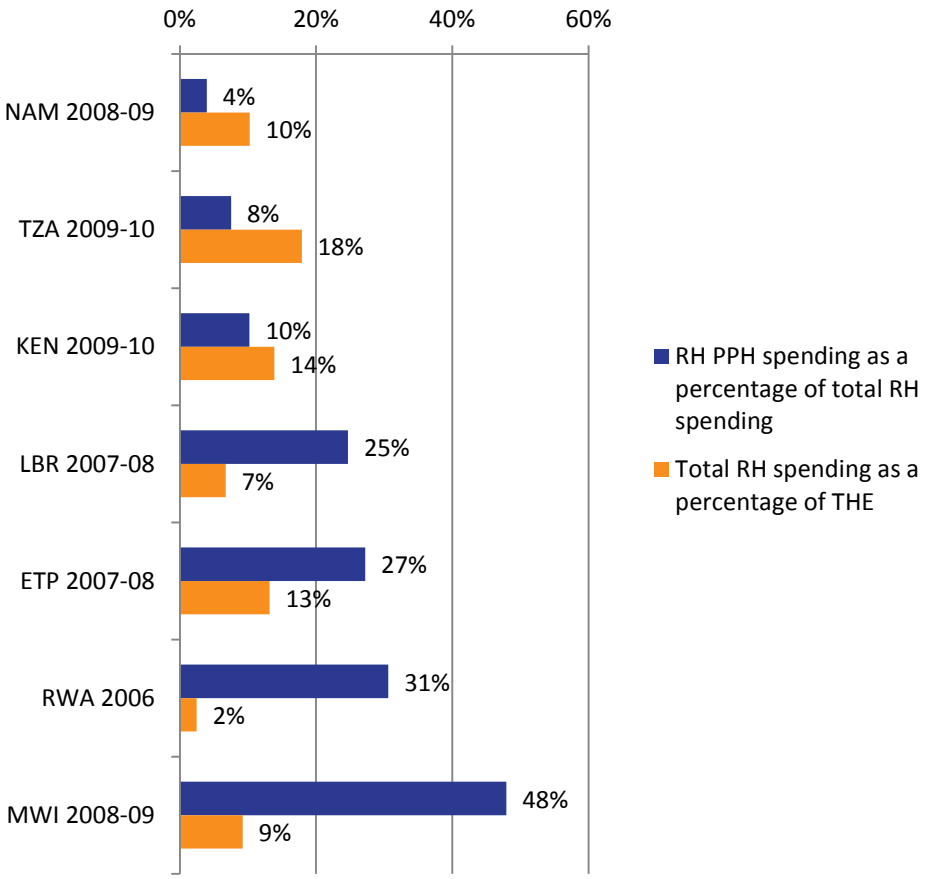
Implications: Services for curative care always account for more spending than PPH, and countries spend more on health administration and insurance for TB as compared to other disease areas.

4.5 Reproductive Health PPH Expenditures

What proportion of reproductive health spending is allocated to PPH? Reproductive health subaccounts, which track spending for reproductive health programming, have been completed in seven countries in Africa.[5] Figure 15 illustrates the following findings:

- Total reproductive health spending as a percentage of THE ranges from a low of 2 percent in Ethiopia to a high of 18 percent in Tanzania.
- PPH spending as a percentage of total reproductive health spending ranges ranges from a low of 4 percent in Namibia to 48 percent in Malawi.

Figure 15: Expenditures on Reproductive Health



[5] The Guide for Producing Reproductive Health Subaccounts defines reproductive health as "the constellation of methods, techniques, and services that contribute to reproductive health and wellbeing by preventing and solving reproductive health problems. It also includes sexual health, the purpose of which is the enhancement of life and personal relations and not merely counselling and care related to reproduction and sexually transmitted diseases (WHO 2009)."

Which countries spent the most on reproductive health PPH? Namibia spent the most per capita on reproductive health and Rwanda spent the least. In terms of reproductive health PPH spending per capita, Malawi spent the most and Rwanda again spent the least. Namibia has the lowest maternal mortality ratio (MMR) per 100,000 live births and lowest total fertility rate (TFR), while Liberia has the highest MMR and Malawi has the highest TFR.

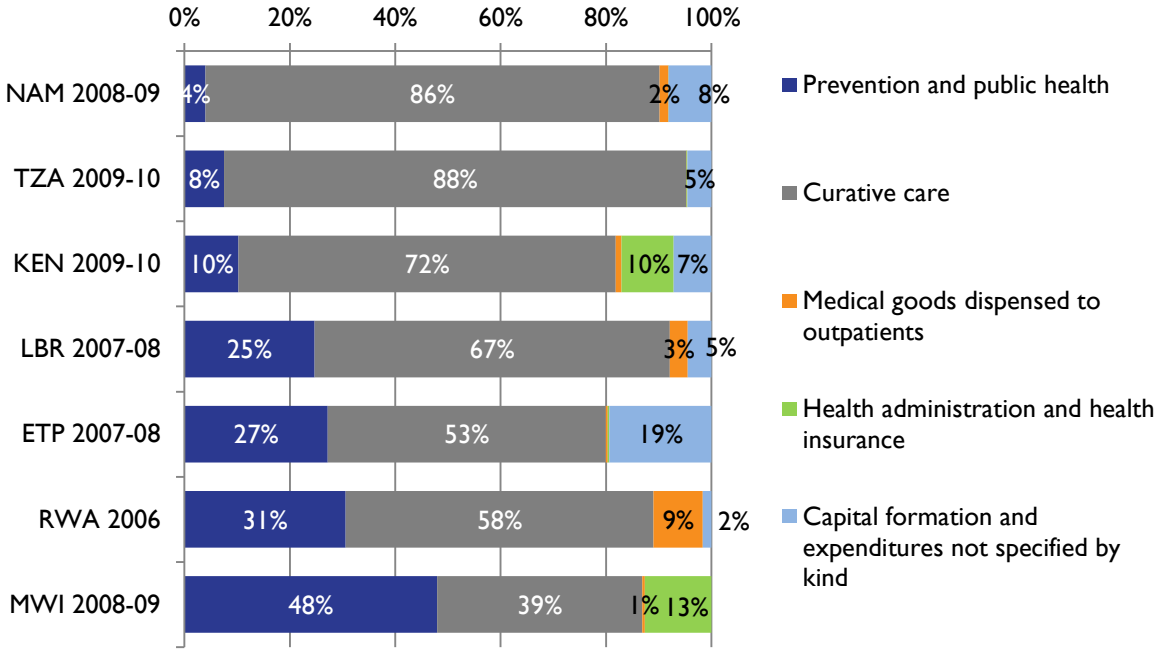
Table 8: Spending on Reproductive Health and Reproductive Health PPH

Country	Year	MMR per 100,000 live births	TFR** (births per woman)	RH*** Spending	RH PPH Spending	RH spending per capita	RH PPH spending per capita
ETP	2007-08	540	4.5	443,640,208	120,703,523	5.58	1.52
KEN	2009-10	360	4.7	418,330,732	42,821,287	10.33	1.06
LBR	2008	770	5.4	14,417,342	3,557,130	3.94	0.97
MWI	2008-09	460	6.0	121,772,359	58,387,094	8.43	4.04
NAM	2008-09	200	3.3	102,428,888	4,069,805	45.68	1.82
RWA	2006	550	5.5	23,238,044	7,113,148	2.46	0.75
TZA	2009-10	460	5.5	806,502,565	60,711,708	17.99	1.35

*Population and health outcome data from World Bank 2012. The health outcome data is reported in the same year as the NHA data.

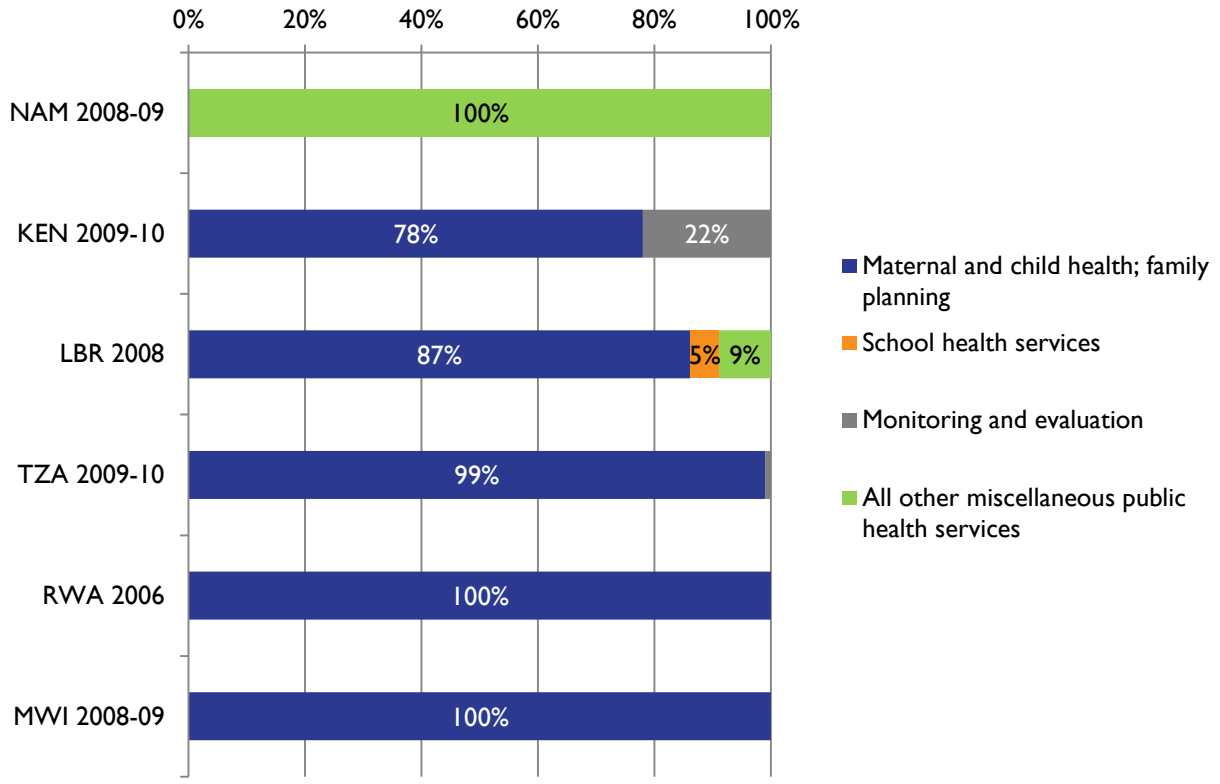
How does reproductive health PPH spending compare to other health care functions? In Namibia, Tanzania, and Kenya, reproductive health PPH expenditures were minimal as compared to curative reproductive health care (see Figure 16). In Liberia, Ethiopia, Rwanda, and Malawi, reproductive health PPH expenditures were more substantial, accounting for approximately one-quarter, one-third, and one-half of all reproductive health expenditures, respectively.

Figure 16: Reproductive Health Spending as a Proportion of THE by Health Care Function



How are reproductive health PPH expenditures allocated to different RH interventions? All countries with reproductive health subaccounts provided data on the breakdown of PPH expenditures, with the exception of Ethiopia. The majority of countries classify reproductive health expenditures as MCH and FP, as shown in Figure 17. Namibia is the exception, where all expenditures were classified as miscellaneous.

Figure 17: Reproductive Health PPH Spending as a Proportion of Reproductive Health Spending by PPH Priority Area



Implications: As with other health areas, expenditures on PPH were lower than curative care. In the countries where data were available, the majority of PPH expenditures were spent on MCH and FP. The subcategories under HC.6 are too broad to give analysts a complete understanding of PPH spending for reproductive health.

5. COUNTRY CASE STUDY: NAMIBIA

Chapter 5 examines general PPH spending in Namibia for an eight-year period from FY2001-02 to FY2008-09. This chapter then examines HIV and reproductive health PPH spending in Namibia for FY2007-08 and FY2008-09.

5.1 Country Background

Namibia is an upper middle-income country in sub-Saharan Africa, with a population of 2.3 million in 2012 (World Bank 2012). It is one of the countries hardest hit by the HIV epidemic. In 2002, the HIV epidemic peaked, with 16.5 percent of the population aged 15-49 infected (World Bank 2012). At that time, malaria had been the leading cause of death (World Bank 2012). In 2000, TB prevalence was 969 cases per 100,000 people with 80 deaths per 100,000 people (World Bank 2012).

Namibia increased expenditures in health from US$291 per person in FY2001-02 to US$445 per person in FY2008-09. Over the same time period, Namibia reduced the burden of HIV, malaria, and TB, as presented in Table 9. The use of insecticide-treated bednets increased from 3.4 percent in 2000 to 34 percent in 2009, and the treatment success rate for TB increased from 56 percent to 80 percent over the same period (World Bank 2012). The total fertility rate declined from 4 to 3.2 births per woman between 2000 and 2010 (World Bank 2012).

Namibia has been a leader in producing health resource tracking data over the past decade, completing eight consecutive NHAs from FY2001-02 to FY2008-09. The two most recent NHAs for FY2007-08 and FY2008-09 also include HIV and reproductive health subaccounts.

Table 9: Namibia Health Indicators, 2000-2011

Indicator	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
General Health												
Life expectancy at birth, total (years)	57.7	57.3	57.2	57.4	57.9	58.5	59.4	60.2	61.0	61.6	62.1	62.3
Child Health												
Mortality rate, infant (per 1,000 live births)	48	48	48	48	47	43	41	39	36	34	32	30
Mortality rate, under-5 (per 1,000)	74	75	75	75	74	69	63	59	54	50	46	42
HIV												
Condom use with non-regular partner, % adults(15-49), female	42.7						62.2					
Condom use with non-regular partner, % adults(15-49), male	67.8						78.4					
Prevalence of HIV, total (% of population ages 15-49)	15.3	16.1	16.5	16.5	16.2	15.7	15.0	14.3	13.7	13.1		
Malaria												
Malaria cases reported	519,113	537,115	442,527	444,081						81,812		
Use of insecticide-treated bednets (% of under-5 population)	3.4						10.5			34.0		
Reproductive Health												
Fertility rate, total (births per woman)	4.0	3.9	3.8	3.8	3.7	3.6	3.5	3.4	3.4	3.3	3.2	3.2
Maternal mortality ratio (national estimate, per 100,000 live births)	271							450				
TB												
Tuberculosis prevalence rate (per 100,000 population)	969	955	938	921	883	849	797	709	651	550	492	

*Data from World Bank 2012

5.2 Trends in PPH Spending

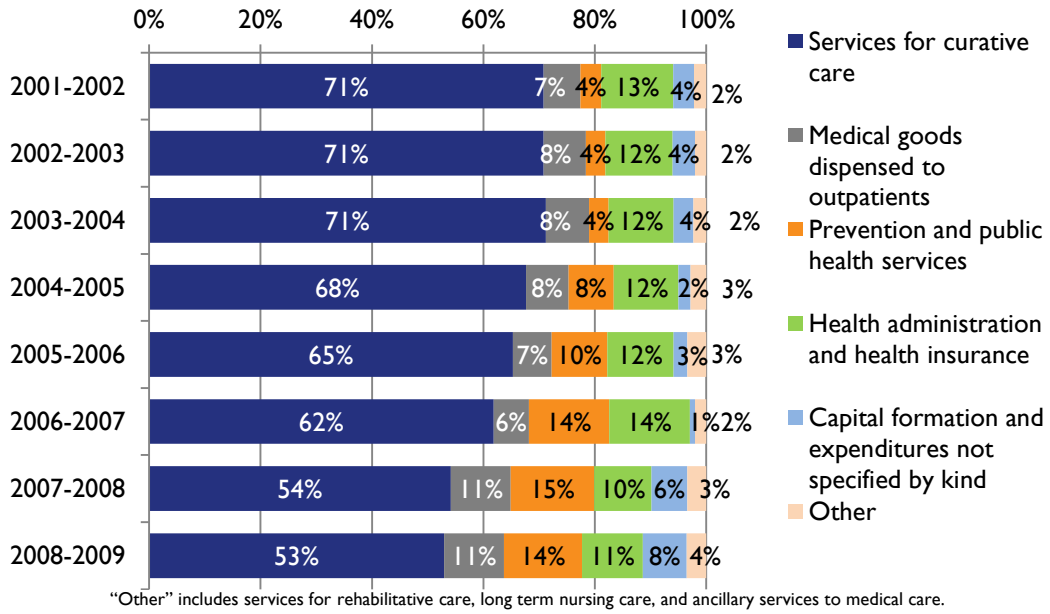
PPH expenditures per capita and PPH expenditures as a percentage of THE increased steadily from FY2001-02 to FY 2008-09. PPH expenditures per capita increased from US$11 to US$62, and PPH expenditures as a percentage of THE increased from 4 percent to 14 percent. Per capita spending on PPH has grown at a much faster rate than total per capita health spending (464 percent as compared to 53 percent). Over the same time period, PPH expenditures increased rapidly from US$21 million in FY2001-02 to US$140 million in FY2008-09. These trends are illustrated in Table 10.

Table 10: Spending on Health and PPH in Namibia (2001-2009)

Year	THE (USD)	PPH expenditures (USD)	THE per capita (USD)	PPH expenditures per capita (USD)
2001-2002	573,678,397	21,347,339	291	11
2002-2003	609,908,768	21,434,273	304	11
2003-2004	643,437,184	22,637,811	315	11
2004-2005	704,681,307	57,425,350	339	28
2005-2006	843,152,390	84,194,214	398	40
2006-2007	923,770,410	133,545,320	428	62
2007-2008	947,877,271	142,087,036	431	65
2008-2009	997,145,409	139,997,707	445	62

How does PPH spending compare to other areas? When comparing PPH to other health care functions, several trends can be seen. First, while curative care accounts for the largest proportion of THE, since FY2001-02 it has decreased from 71 percent to 53 percent in FY2008-09, while the proportion of funds allocated to PPH increased from percent to 14 percent. The share of all other health care functions remained stable overall in this time period. These trends are presented in Figure 18.

Figure 18: Trends in Health Care Functions, FY2001-02 to FY2008-09

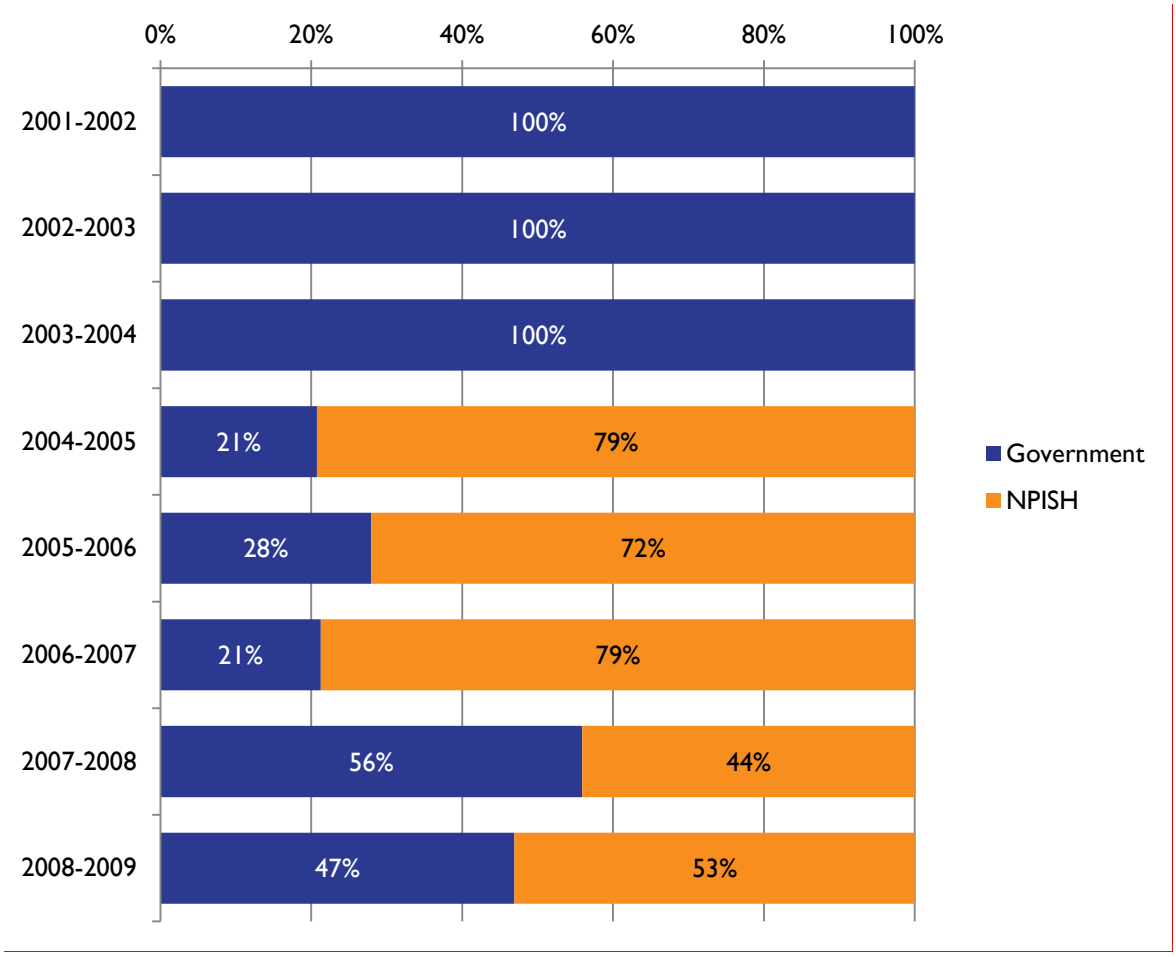


"Other" includes services for rehabilitative care, long term nursing care, and ancillary services to medical care.

From FY2001-02 to FY2008-09, who managed PPH funding? Over the eight-year period, as displayed in Figure 19, the financing agent of PPH funds in Namibia was either the government or NPISH. In FY2001-02 to FY2003-04, the financing agent was the government. The data revealed that in FY2004-05, a large shift occurred in the management of PPH funds to NPISH. Since then, NPISH has managed about one-half to three-quarters of funds.

This shift may be explained by the number of large NGOs focused on HIV PPH that commenced work in Namibia during this time period. In a short time, the amount of funds allocated to PPH increased steadily, from US$21 million in FY2001-02 to US$140 million in FY2008-09. The amount of PPH funds managed by the government did not decrease, but the percentage of overall funding on PPH managed by the government did.

Figure 19: Financing Agents of PPH Services



From FY2001-02 to FY2008-09, who were the health providers of PPH services in Namibia? PPH services were administered almost entirely by providers and administrators of public health programs (ranging from 96 percent to 100 percent in this time period). Again, this finding may reflect a challenge faced by the NHA teams who often have limited information on how PPH expenditures should be classified and coded at the health provider level. It is therefore likely that the teams applied a consistent rule that assumed all PPH expenditures were provided by administrators of public health programs, therefore limiting the utility of these data.

5.3 HIV PPH Spending

About 80 percent of people infected with HIV in Namibia are on ART (USAID AIDSTAR-One 2011). The high cost of treatment led the government and stakeholders to begin developing an HIV prevention strategy in 2006, which focuses on three areas:

1) Reduction of HIV exposure through changes in sexual behavior
2) Changes in the health system structure to enable access to HIV prevention programs
3) Biomedical interventions to decrease the risk of HIV transmission (USAID AIDSTAR-One 2011).

The new National Strategic Framework for HIV and AIDS Response in Namibia for FY2010-11 to FY2015-16 outlines the next steps for the country (Republic of Namibia 2010). The backbone of the framework is prevention, as the plan aims to reduce the annual number of new HIV infections by 50 percent by 2015-16. The framework also aims to improve the quality of life of people living with HIV by increasing VCT so that the disease can be detected as early as possible, and people can gain access to treatment immediately.

What proportion of spending is allocated to HIV and HIV PPH in Namibia? In FY2007-08, 30 percent of THE was allocated towards HIV. A large portion of total HIV expenditures (38 percent) was allocated to PPH for HIV. Data for FY2008-09 show that these allocations and the total value (US$110 million in FY2007-08 and US$108 million in FY 2008-09) remained essentially unchanged.

In both years, FY2007-08 and FY2008-09, where HIV data are available, there is no major difference in how expenditures were allocated across health care functions. Services for curative care were the largest proportion of THE on HIV (48 percent), followed by PPH services (38 percent). Each of the remaining health care functions, (ancillary services, health administration and insurance, capital formation, services for long-term care, and medical goods dispensed to outpatients) accounted for 6 percent or less of THE.

In both FY2007-08 and FY2008-09, the top three PPH expenditures remained the same. The largest expenditure was for VCT (46 percent and 49 percent, respectively), followed by HIV prevention programs that could not be disaggregated (22 percent and 19 percent, respectively) and HIV information campaigns (16 percent in both years). A notable change was the increase in the share of PMTCT spending, from 4 percent to 9 percent. In both years, each of the remaining categories of spending accounted for 4 percent or less of total HIV PPH expenditures (blood safety, STI programs, condom distribution, surveillance, nutritional programs, school health services, and HIV-TB programs).

From FY2007-08 to FY 2008-09, who was the financing agent managing PPH funding for HIV? The government managed half of all funds in FY2007-2008, while NPISH managed the rest. The share of funds managed by the government decreased to 41 percent in the following year, while the share managed by NPISH increased accordingly. There were no other financing agents in either year.

From FY2007-08 to FY2008-09, who were the health providers of PPH HIV services in Namibia? Administrators of public health programs were the providers responsible for the majority of HIV expenditures, at 95 percent in FY2007-08 and 96 percent in FY2008-09.

5.4 Reproductive Health PPH Spending

While Namibia has been successful at reducing the prevalence of HIV, TB and Malaria, there has been slower progress in improving maternal and reproductive health outcomes. The total fertility rate has decreased from 4 live births per woman in 2000 to 3.2 in 2011. However, maternal mortality per 100,000 live births has increased from 271 deaths in 2000 to 450 deaths in 2007 (World Bank 2012). Recognizing the challenges in the area of reproductive health, the government developed a Roadmap for Accelerated Reduction of Maternal and Neonatal Morbidity and Mortality, as well as joined the Campaign on Accelerated Reduction of Maternal Mortality in Africa (2009-2014).

How does reproductive health and reproductive health PPH spending in Namibia compare to spending in other health areas? In FY2007-08 and FY2008-09, 12 percent and 10 percent, respectively, of THE in Namibia was allocated towards reproductive health. A small portion of total reproductive health expenditures was allocated to PPH in both years: in FY2007-08, reproductive health PPH spending accounted for 5.1 percent of total reproductive health expenditures; in 2008-09, it decreased to 4.0 percent of total reproductive health expenditures. The total value also decreased, from US$6 million in expenditures for PPH in FY2007-08 to US$4 million in FY2008-09.

In both FY2007-08 and FY2008-09, the majority of total reproductive health spending was for curative care, at 88 percent and 86 percent, respectively. Also in both years, PPH was the third largest expenditure, falling closely behind capital formation. All PPH expenditures were further classified as miscellaneous public health services. This indicates that the NHA team was unable to provide more detail on how PPH services were spent, which is likely a result of having limited data.

From FY2007-08 to FY2008-09, who was the financing agent managing PPH funding for reproductive health? For reproductive health, the government was a key financing agent of PPH funds, managing 86 percent in FY2007-08 and 98 percent in FY2008-09, while the share of funds managed by NPISH deceased from 14 percent to less than 1 percent.

From FY2007-08 to FY2008-09, who were the health providers of PPH reproductive health services in Namibia? In both years, administrators of public health programs accounted for all reproductive health expenditures.

5.5 Country Implications

5.5.1 General PPH Spending

The NHA data revealed that PPH spending increased over the eight-year period, from FY2001-02 to FY2008-09, both in per capita terms and as a share of THE.

From FY2001-02 to FY2003-04, all PPH expenditures were managed by the Namibian government. As PPH expenditures grew rapidly from FY2003-04 onwards, a larger proportion was managed by NPISH.

Namibia may receive lower donor contributions in the near future. To ensure that the country maintains progress in improving health outcomes and prepares for the decline in external funding, increased government commitment to strategic areas – such as HIV and reproductive health – is paramount. Promoting a greater role by local NGOs in health promotion and disease prevention should be a priority policy issue.

5.5.2 HIV PPH Spending

The HIV subaccount reveals that HIV spending represents a large proportion of THE. In both years where data were available, almost one-third of THE was allocated towards HIV. Given the severity of the HIV epidemic in Namibia, it is not surprising that a large proportion of expenditures were allocated towards combating the disease. PPH expenditures represented a large amount of total HIV health expenditures at 38 percent in both years, while curative care accounted for about half of total HIV health expenditures. A further breakdown of HIV PPH spending reveals that the majority was spent on VCT, which is highlighted as a priority in the new HIV framework for 2010-11 to 2015-16. HIV information campaigns, which were also highlighted in the HIV framework, were the second largest expenditure in both years, at 16 percent. Over just a one-year period, expenditures for PMTCT as a proportion of PPH spending increased substantially, from 4 to 9 percent.

The share of HIV funds managed by the government and NPISH was about equal. Because of NPISH's significant and potentially unique role in HIV prevention, more emphasis should be placed on reducing NGO dependence on donor funding.

5.5.3 Reproductive Health PPH Spending

Reproductive health accounted for 12 percent of THE in FY2007-8 and 10 percent the following year. A very small proportion of reproductive health expenditures was allocated to PPH: 5 percent in FY2007-08 and 4 percent in FY2008-09. The overwhelming majority of reproductive health funds were spent on curative care. Unfortunately, a detailed breakdown of how PPH expenditures were spent was not available for either year, as all funds were classified as being for miscellaneous prevention activities.

Unlike HIV PPH, reproductive health PPH activities are almost entirely managed by the government. While not definitive, investing heavily in curative care over PPH may be an inefficient use of resources, as many adverse reproductive health conditions could be prevented through more cost-effective PPH activities. The government could consider examining the effectiveness of the reproductive health PPH activities it manages to determine if existing prevention and promotion activities should be scaled up or if new interventions should be introduced.

6. IMPROVING NHA TO TRACK HEALTH PROMOTION AND DISEASE PREVENTION

This chapter examines the challenges with collecting PPH data, the limitations of the former SHA 1.0 framework when it comes to tracking PPH expenditures, and the implications of the revised SHA 2011 framework. SHA 2011 adds new spending categories to increase precision and function of the data collected. This chapter will therefore discuss the implications of the revised framework for tracking health promotion and disease prevention.

6.1 Challenges with Collecting PPH Data with the Former SHA 1.0 Framework

This exercise demonstrates that in Africa, general data on PPH were available in 16 out of a possible 33 countries, and detailed information on PPH subcategories was available in only nine. In addition, in many of the countries where data were available, most were classified as prevention of communicable disease, with limited information provided on other types of health promotion and disease prevention spending. An exception was within the HIV subaccount data, where it was common to find detailed breakdowns of prevention for communicable disease. However, this was not the case for the other subaccounts, such as malaria, reproductive health, and TB, or for the general NHA.

Collecting data with a high level of detail is a challenge in most countries. Strengthening country health information systems would enable more routine reporting. In strengthening information systems, countries should make a conscious effort to build upon existing systems.

Having routine NHA data, which would enable countries to assess whether funding is being spent according to national strategic plans and policies, presents another challenge. In Namibia where data are available for a period of eight consecutive years, the data paint a powerful picture. While the general and HIV subaccount data displayed positive trends, subaccount data on reproductive health demonstrated that few resources are being spent on reproductive health PPH despite the increasing maternal mortality ratio from 2000 to 2006.

Institutionalizing the production and use of NHA data is fundamental to supporting more routine and timely NHA estimations. NHA institutionalization is defined as "government led, country owned production and utilization of an essential set of policy relevant health expenditure data using internationally accepted accounting framework" (World Bank 2010). Several initiatives have already been taken to simplify the NHA production process. Additional work is required to ensure that NHA teams have in-country capacity to collect data, analyze and share results with stakeholders in a way that promotes use of the information.

6.2 Challenges with the Former SHA 1.0 Framework

The boundaries in the former SHA 1.0 framework present challenges to capturing PPH expenditures and comparing results across countries. The following were common challenges:

- **PPH subcategories overlap, resulting in similar PPH activities inconsistently classified across countries.** NHA teams have to use their best judgment when deciding how to classify health expenditures, which may result in differences when comparing data across countries. In addition, the use of "public health" in the name and definition of HC.6 reduces clarity; NHA teams sometimes interpreted the term "public" in terms of ownership and sometimes in terms of its application to collective groups (as opposed to individuals).
- **The subcategories under PPH do not sufficiently capture how PPH expenditures are allocated**. The purpose of the subcategories under PPH are to provide more detail to policymakers on how expenditures are allocated. However, in the nine countries in this study, the majority of PPH expenditures were captured under the broad category of "prevention of communicable diseases." These subcategories do not tell decision makers what types of services are provided, but focus more on the type of disease that the intervention aims to prevent.
- **The former SHA1.0 framework was not able to capture the cross-sectoral nature of health promotion activities.** Many health promotion activities have broader impacts beyond health, such as tobacco control and road safety. These expenditures are not fully captured by the SHA 1.0 framework.
- **Boundaries on health providers, specifically provision and administration of public health programs, were too broad**. In general, most NHAs reported that PPH expenditures went to administrators of public health programs. On average in this sample, countries reported that 71 percent of PPH expenditures were provided by administrators of public health services. No country provided an additional breakdown of who these "administrators" were.
- **Attributing financing sources (funders) to health care functions (PPH) was not possible.** Since financing agents have programmatic control over health expenditures, financing sources do not report on the health care function of their expenditures. When analyzing NHA data, one can only assume that the financing source for PPH activities is proportional to the financing agents of PPH activities. For example, in Namibia, unless a financing agent was funded by only one financing source, it was not possible to deduce the proportion of funds that were used by a given financing agent for PPH as opposed to another health care function.

6.3 Improvements in the SHA 2011 Framework

After applying the SHA 1.0 methodology in many countries, NHA practitioners recognized areas for improvement in the first edition of the framework. As a result, the OECD, Eurostat, and WHO produced SHA 2011 that improves on the cohesion of the framework. Several changes were made that have implications for tracking health promotion and disease prevention. These changes are described below.

6.3.1 New PPH Boundaries

Under SHA 2011, the boundaries of the HC.6 classification encompassing spending on health promotion and disease prevention have been redefined. Instead of being organized by program (e.g., maternal care, communicable disease, NCD), the new HC.6 category, now titled "preventive care," is organized by type of care.

The types of care within HC.6 are broken down as primary, secondary, and tertiary prevention levels:

- **Primary prevention:** measures aimed at reducing risk or burden of disease
- **Secondary prevention:** measures aimed at identifying diseases to commence therapy as soon as possible
- **Tertiary prevention**: measures aimed at reducing the negative impacts of an existing disease or injury.

SHA 2011 states that expenditures that fall within the tertiary prevention boundary are to be classified as curative care rather than prevention. SHA 2011 therefore improves upon SHA 1.0 by clarifying the boundary between prevention and curative care. In addition, with subcategories organized by type of services provided, the results have a more strategic focus rather than a disease focus. Ideally, this will provide more detail regarding how PPH expenditures are spent and will provide decision makers with more policy-relevant information. To ease the transition to the new SHA 2011 framework and ensure that NHA results are comparable over time, NHA teams still have the option to also classify expenditures according to the original SHA 1.0 subcategories. The new SHA 2011 subcategories as compared to those in SHA 1.0 are listed in Table 11.

Table 11: Classifications for PPH under SHA 1.0 and SHA 2011

SHA 1.0 Classifications	SHA 2011 Classifications
HC.6 PPH	HC.6 Preventive care
• HC.6.1 Maternal and child health and family planning	• HC.6.1 Information, education and counseling programs
• HC.6.2 School health services	• HC.6.2 Immunization programs
• HC.6.3 Prevention of communicable diseases	• HC.6.3 Early disease detection programs
• HC.6.4 Prevention of non-communicable diseases	• HC.6.4 Healthy condition monitoring programs
• HC.6.5 Occupational health care	• HC.6.5 Surveillance of communicable and non-communicable diseases, injuries and exposure to environmental health risks programs
• HC.6.9 All other miscellaneous public health services	• HC.6.6 Preparing for disaster and emergency response programs

6.3.2 New Boundary for Health Promotion with a Multi-Sectoral Approach

As previously mentioned, a challenge identified in this study is that many health promotion expenditures could not be captured by the SHA 1.0 framework because they may cross several sectors and have overlapping social purposes. SHA 2011 recommends a new memorandum health care-related item called "health promotion with a multi-sectoral approach." While the expenditures captured in this memorandum item are not included in the total measure of health expenditures for the country, this new boundary includes spending by other sectors. The subcategories within this category include the following:

- Food and drinking water interventions (HCR.2.1)
- Environmental interventions (excluding those related to food and drinking water) (HCR.2.2)
- Other multi-sectoral health promotion (HCR.2.3)

Going forward, the SHA 2011 framework will therefore have more bandwidth to capture health promotion spending.

6.3.3 Revisions to Provider Classifications

The SHA 2011 maintains essentially the same provider classifications as SHA 1.0. One minor change was made to the code most relevant to prevention: under SHA 1.0, HP.6 was called "provision and administration of public health programs," and under SHA 2011, it is now "providers of preventive care." While the new category in SHA 2011 is distinctly related to prevention and not public health more broadly, it still does not offer additional clarity about the nature of these providers. The SHA 2011 indicates that the total value of health care prevention programs will be shared between this category (HP.6) and providers of ambulatory care (HP.3). However, given that the majority of data in this study were allocated to HP.6, additional subcategories could be incorporated in SHA 2011. An important next step is for NHA practitioners to convene and determine second-digit classifications that can be added to better capture providers of prevention programs.

6.3.4 New "Health Financing Scheme"

In SHA 1.0, the financing agent dimension answered questions about who managed health resources as they flowed from their origins to end use (providers and functions). In SHA 2011, financing agents are complemented with financing schemes to answer how funds are managed. Health financing schemes can also be defined as rules for satisfying the three financing functions: raising revenue, pooling and managing resources, and purchasing services. The addition of the health financing schemes dimension has made SHA 2011 better able to reflect the growing interest in as well as the complexity of financing mechanisms that characterize countries' health systems. For tracking health promotion and disease prevention, this means that policymakers can examine the types of financing arrangements through which people obtain services, and how the revenues of each financing scheme are raised. However, similar to SHA 1.0, linking the revenue of health financing schemes to health care functions is not possible.

The classifications of health care financing schemes in SHA 2011 include the following:

- Government schemes and compulsory contributory health care financing schemes
    - Government schemes
    - Compulsory contributory health insurance schemes
    - Compulsory medical savings accounts
- Voluntary health care payment schemes
    - Voluntary health insurance schemes
    - NPISH financing schemes
    - Enterprise financing schemes
- Household out-of-pocket payment
    - Out-of-pocket excluding cost sharing
    - Cost sharing with third-party payers
- Rest of the world (donor) financing schemes (non-resident)
    - Voluntary health insurance schemes (non-resident)
    - Other schemes (non-resident)

6.3.5 Disease-specific Spending Tracked through "Global Burden of Disease" Classification

Prior to SHA 2011, countries used the subaccount methodology to track spending in priority diseases (e.g., HIV/AIDS) or health areas (e.g., reproductive health). Subaccounts gathered detailed information on these subsectors and measured them as a percentage of total spending on health in the country. SHA 2011 has replaced subaccounts with a new comprehensive classification, Global Burden of Disease (GBD), which is based on the International Classification of Disease (ICD-10). While the data for each GBD category will not be as detailed as the data from the NHA subaccounts, spending for many diseases and conditions will be captured, and GDB data can be combined with other beneficiary characteristics (e.g., age, gender, and socioeconomic status). This should ultimately allow for additional policy application to a wider group of stakeholders.

7. CONCLUSIONS

This chapter summarizes areas for further research, lessons learned for policymakers and program implementers, and considerations for NHA practitioners.

7.1 Lessons Learned and Recommendations for Research Priorities

This analysis identifies countries that have a high or low proportion of spending in PPH relative to other health care functions. On average, the 16 countries in this analysis spent 19 percent of THE on PPH. Further research could be completed to take a closer look at the differences in countries that have higher proportions of THE allocated towards prevention (such as Ethiopia, Malawi, Senegal, Tanzania, Liberia, and Burkina Faso) as compared to countries that do not (such as Cote d'Ivoire, Botswana, and Namibia). Further analysis of normative costing using Marginal Budgeting for Bottlenecks or Onehealth, as well as national strategic plans, could shed light on the ideal mix of resources needed for prevention and its share of the total health envelope.

7.2 Lessons Learned and Recommendations for Policymakers and Program Implementers

A key pattern among many of the countries in this analysis was that NPISH and donors in low-income countries in Africa managed a large proportion of PPH expenditures (in eight out of 13 countries with data, NPISH and donors managed more than half of all PPH funds). Given that PPH activities have benefits for the public at large, the government should be the key steward of such services. In line with USAID Forward and other country ownership initiatives, program implementers should work with governments to coordinate PPH activities to ensure that they support national strategic plans. In addition, governments could institutionalize state-of-the-art health promotion and disease prevention programming in Ministries of Health and graduate level schools of public health.

The case study in Namibia demonstrates the power of having consecutive years of PPH data. The trend data show that joint government and donor commitments to health increased, as expenditures have more than doubled in less than a decade. For example, PPH expenditures increased rapidly from US$21 million in FY2001-02 to US$140 million in FY2008-09. Concerning HIV, in FY2008-09, 28 percent of all HIV expenditures are for PPH activities and HIV prevalence rates have been decreasing over the time frame during which data were available. On the other hand, PPH expenditures for reproductive health have been relatively low, and reproductive health outcomes have not been improving at the rate of those of other health priority areas. Given that a new strategy for reproductive health in Namibia was released recently, continuing to track PPH expenditures is vital to monitoring whether spending is aligned with the new national objectives.

The NHA as a tool for tracking PPH has displayed several advantages and disadvantages, and, overall, has greater potential for use in the future. A key advantage of the NHA is that it has already been used in over 100 countries throughout the world to track health expenditures. Beyond the NHA's ability for cross-country comparisons, continuing to use the NHA methodology to track PPH expenditures rather than creating another mechanism to do so reduces the burden of multiple parallel data reporting

systems. Governments and program implementers should work to institutionalize resource tracking methodologies like the NHA so that PPH data are readily available to monitor and manage the progress of national programs. As previously mentioned, strengthening information systems is a critical step to facilitating NHA data collection, streamlining analysis, and making relevant and timely results available to decision makers.

7.3 Lessons Learned and Recommendations for NHA Practitioners

Since the time of this analysis, improvements on the SHA 1.0 are underway as countries are implementing the SHA 2011. However, data produced using the SHA 2011 framework are not yet available. A key challenge with the SHA 1.0 framework was that NHA subaccounts were not completed as often as general NHAs. In addition, disease-specific information on NCDs was not captured in the NHA framework. Having subaccount information is particularly useful because it can be combined with disease incidence and prevalence or mortality data to better understand the link between PPH and health outcomes. However, in order to draw conclusions from the data, additional countries need to collect subaccount information so that a more robust statistical analysis can be completed. Under SHA 2011, subaccounts are no longer conducted separately from the general NHA. Instead, health specific data will be incorporated in the general framework as a beneficiary. As countries begin to implement SHA 2011, there needs to be a strong emphasis on collecting disease specific information so that the link between spending and health outcomes can be made.

Overall, the SHA 1.0 version of the NHA was heavily weighted towards itemizing curative care and PPH subcategories did not capture all PPH activities in a given country. SHA 2011 presents solutions to some of the problems inherent in the previous version. However, SHA 2011 presents NHA practitioners with a new challenge: how to collect and analyze data on health promotion and disease prevention according to the new boundaries and definitions. The supplementary guidance developed by the OECD, *Expenditure on Prevention Activities under SHA 2011*, is a practical resource for country teams as they begin using the revised framework. As countries move forward with SHA 2011, stakeholders should collaborate to ensure the results can be used fruitfully in future studies to enhance understanding of health promotion and disease prevention programs.

ANNEX A: NHA CODES SHA 1.0

PPH Services (HC.6) General NHA, TB Subaccount and Reproductive Health Subaccount Breakdown		
HC.6.1	Maternal and child health; family planning and counseling	
HC.6.2	School health services	
HC.6.3	Prevention of communicable diseases	
HC.6.4	Prevention of non-communicable diseases	
HC.6.5	Occupational health care	
HC.6.9	All other miscellaneous public health services	
PPH Services (HC.6) HIV Subaccount Breakdown		
HC.6.1	PMTCT/Maternal and child health; family planning	
HC.6.2	School health services	
HC.6.3	Prevention of communicable diseases	**HC.6.3 HIV**
HC.6.4	Prevention of non-communicable diseases	6.3.1 VCT
HC.6.5	Occupational health care	6.3.2 Blood Safety
HC.6.6	Health Promotion	6.3.3 HIV Information Campaigns
HC.6.9	All other miscellaneous public health services	6.3.4 STI Prevention
		6.3.5 Condom Distribution
		6.3.6 Surveillance
		6.3.7 Nutritional
		6.3.8 HIV-TB Prevention Program
		6.3.9 Other HIV Communicable disease Prevention
PPH Services HC.6 Malaria Subaccount Breakdown		
HC.6.1	Maternal and child health; family planning/malaria control in integrated health programs	
HC.6.2	School health services/that include malaria awareness programs	
HC.6.3	Prevention of communicable diseases (total of breakdown)	**HC.6.3 Malaria**
HC.6.4	Prevention of non-communicable diseases	6.3.1 Intermittent preventive treatment in pregnant women and infants
HC.6.5	Occupational health care	6.3.2 Insecticide-treated materials/insecticide-treated net activities

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